

THE APPROACH TO ECONOMICS

By H. M. CROOME
and
R. J. HAMMOND

THE
ECONOMY OF
BRITAIN :
A HISTORY
6/6

"A really useful text-book."
—*Economist*.

"Successfully manages to
pack the whole of English
economic history into one small
and attractive volume."—*Spectator*.

*N.B.—Part II, from 1750 to the
present day, also published separately—4/-*

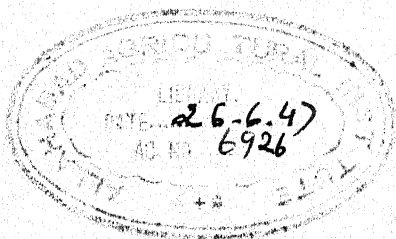
THE APPROACH TO ECONOMICS

BY

H. M. CROOME
(H. M. SCOTT)

B.Sc., Econ.

LATE METCALFE SCHOLAR, LONDON SCHOOL OF ECONOMICS



LONDON
CHRISTOPHERS
22, BERNERS STREET, W.1.

CAPE TOWN : MELBOURNE : SYDNEY : WELLINGTON : TORONTO

<i>First Published in</i>	July	1931
<i>Reprinted (revised)</i>	July	1932
"	Jan.	1934
"	Sept.	1935
"	May	1937
"	Sept.	1938
"		
" (revised)	Oct.	1940
"	Oct.	1942
"	July	1943

Printed in Great Britain

PREFACE

"THE Approach to Economics" is written primarily for the secondary school pupil prepared for Matriculation or School Certificate. In presentation, this fact has necessitated a certain amount of simplification by comparison with existing textbooks, since students in their middle 'teens cannot be expected to have the same range of general knowledge and familiarity with abstract phraseology as those at the Universities. I have not, however, assumed that they are any less capable of following a closely knit argument, and have tried to treat the subject-matter comprehensively enough to carry the student up to Intermediate standard. More advanced readers may find it useful as a means of quick revision.

Of the four sections into which the contents are divided, the first deals with the nature and mechanism of the laws of Supply and Demand, with the division of labour and with the market as the pivot of the economic process. The second discusses the factors of production on which these laws work, both individually and as combined in institutions. The third is concerned with the distribution of the final product among those owning the factors of production and includes a chapter on public

▼

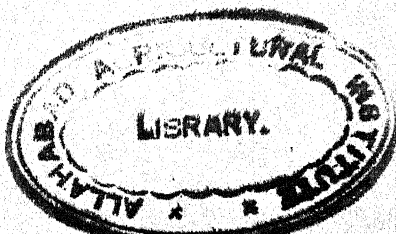
finance. Finally, the fourth section provides examples of how to use, on the study of current problems, those tools of analysis which the earlier and more elementary parts of the book have taught the student to handle.

My book inevitably owes a particular debt to those on whose teaching at the London School of Economics it is based. Most especially, although not in any way claiming his authority for all my conclusions, I wish to acknowledge my obligation to Professor Lionel Robbins, not only for the general training in economic analysis which has given me what qualifications I have, but for the generosity with which, sometimes at great personal inconvenience, he has given this book the advantage of his advice and criticism.

H. M. C.

CONTENTS

	PAGE
PREFACE	v
CHAPTER	
I. INTRODUCTION	1
II. CO-OPERATION, PRODUCTION AND THE MARKET	10
III. HOW PRICES ARE FIXED : DEMAND	22
IV. HOW PRICES ARE FIXED : SUPPLY	35
V. THE FACTORS OF PRODUCTION	44
VI. HOW THE FACTORS ARE COMBINED	61
VII. THE ORGANIZATION OF INDUSTRY	69
VIII. MONEY AND CREDIT	82
IX. LOCALIZATION OF INDUSTRY : THE GEOGRAPHICAL FRAMEWORK	101
X. THE NATIONAL INCOME	115
XI. WAGES : THE VALUE OF WORK	124
XII. RENT AND QUASI-RENT : THE VALUE OF CONCRETE CAPITAL	136
XIII. INTEREST	142
XIV. PROFITS	150



CHAPTER	PAGE
XV. PUBLIC FINANCE	157
XVI. UNEMPLOYMENT	166
XVII. THE TRADE CYCLE	176
XVIII. NUMBERING THE PEOPLE	193
APPENDIX I: TABLE TO ILLUSTRATE THE LAW OF DIMINISHING RETURNS	203
APPENDIX II: NOTES ON CERTAIN ECONOMIC INSTITU- TIONS	203
TEST QUESTIONS	219
SUGGESTIONS FOR FURTHER READING	221
INDEX	223

THE APPROACH TO ECONOMICS

CHAPTER I

INTRODUCTION

WHAT is the science of economics, and why should we study it? These are two separate questions which are both quite necessary and justifiable. We will begin by taking the first and looking for a definition of our subject matter.

What Economics is. There are a great many such definitions, mostly either too wide or too narrow. For instance, we shall often hear it said that economics is the science of prices. This definition is too narrow. Many things do not get a price attached to them, but nevertheless have a great economic importance. Take the work that is done by women in their own homes. This never enters directly into the pricing process; but it is economically important in that an increase or decrease in the amount done affects the wages of women working outside their homes, and the price of labour-saving machinery, and the market for houses, and so on right back to the supply of fat cattle! This last point is no exaggeration at all; big joints will not go into the small oven of a labour-saving flat, so fewer people buy them now than used to a few years ago when women were less impatient

of housework, and farmers no longer find it worth while to breed the heavier types of cattle. Again, the economic importance of a good education is well understood ; but the action of the State, in making itself responsible for educating its citizens, is removing education from the scope of the pricing process.

On the other hand, we may hear it said that economics is the science of ordinary business—of how man gets his wealth and spends it. In a sense, this is true ; but it is much too wide. Economics does not study the whole of the matter. It leaves the technical side right out of account. If that definition were accurate, an economist in order to be properly equipped for his task would have to be a competent engineer, farmer, chemist, and dozens of other specialists as well, all rolled into one ; which no economist has ever tried to be. Actually, economics only studies *what happens when things are scarce*. If we compare it with mechanics, we see that mechanics is mainly concerned with the fact that bodies attract one another. It is not concerned with their smell, taste, colour or chemical properties. Similarly economics is not concerned with the structure and technique of production of any article, but only with the fact that the article is scarce. That is the property which interests the economists, as weight and mass interest the physical scientist. We can reasonably call economics the *science of scarcity*.

But economics is far more widely known as the science of wealth. This may seem to be a startling contradiction to anyone who has not seen the terms used before in this almost interchangeable way. How can the study of wealth and the study of scarcity be the same thing ? But it is quite justifiable. Let us examine the notion of wealth and see why this is so.

Wealth. What constitutes the wealth of a man or a nation? Not money, certainly, although there used to be a school of economists who thought so. As we shall see later on in more detail, money has no value apart from the things which it enables people to buy. Then is it the things themselves—the concrete personal or national belongings—which are wealth? This is nearer the point, and looks at first sight as if it might be the correct answer. But we find a difficulty as soon as we try on this basis to compare the wealth of two individuals. One—say—has a house, thirty acres of land, and a market garden; the other has a smaller house, forty acres of land, and a pig farm. Which is the better off? How much house-room equals an acre? How many pigs equal how many rows of cabbages? The comparison is impossible; we are driven back on to money values again. We have to say that a man's wealth is the money value of his possessions.

Value. But how is this money value decided? We shall have to go into this point in a good deal of detail in the next chapter but one; but for the moment it will be enough to point out that this value does not depend only on what the goods in question are like. Suppose that one market gardener's site is at the bottom of a valley, so that at the end of a dry summer he finds that he alone of all the neighbourhood has a fine stock of cabbages while everybody else has had theirs ruined by drought. People will want just as many cabbages to eat as they did before, and his will be the only ones obtainable. Consequently there will be a rush to buy his stock and he will be able to charge higher prices without losing custom. He will be a wealthier man than he was. Yet the cabbages themselves are just the same as last year's crop. The change

is not in them, but in their *scarcity*. On the other hand, it may be a good year for cabbages, not only in our gardener's neighbourhood but all over the country ; and there will be more of them in the market than people are willing to buy at the old price. In order to sell his stock, he will have to lower his price. He may even find, as many farmers have in fact found, that it does not pay him to send the cabbages to market at all. The crop will certainly be worth less than it was, and it may be quite valueless. This again is not because of any change in the cabbages themselves ; it is merely because of a change in their *scarcity*. *Value depends on scarcity*. And we have seen that wealth is value. So that economics, in studying scarcity and the way it affects people's behaviour, is really studying the reason why the ownership of some things confers wealth while that of others does not ; why, for instance, the man who owns a ton of coal is less rich than the man who owns a ton of copper, why the man who has the ability to sweep a crossing is less rich than the man who has the ability to design railway bridges ; and what the connections are between the scarcity of some things and the value of others.

In the course of this book we shall see how far, in fact, relationships between different values work out as these laws of supply and demand would lead us to imagine, and how far, on the other hand, they are interfered with by people's ignorance of where and how they can sell and buy to the best advantage ; or by the rules of such associations as Trade Unions ; or by law, custom and sheer inertia. It must never be forgotten that the laws of supply and demand take us no further than the elements of mechanics take a working engineer. We cannot build up an adequate explanation of the way the economic system works without

taking account of these outside influences, any more than the engineer can build a bridge without taking account of floods and dry spells, of heat and cold, of corrosion and vibration and so on; and if we try, we shall get results nearly as disastrous in the one case as in the other.

Goods and Services. But before going on in this way to see how things come to be worth what they are, we have got to be rather more definite about the terms we shall be using. To say that wealth, for instance, is money's worth or potential money's worth is all very well, but it may still mean several things. We generally think of wealth in terms of goods and the value of goods. But what about services and the value of services? Let us suppose that there are two families, Jones and Robinson, each having the same income, but one of which spends a certain amount on buying and running a car that will last four years, while the other spends exactly the same amount (if the reader feels conscientious he can allow for interest; it makes no difference to the argument) on paying wages for four years to a cook. As a result of these transactions the Jones family owns a car; the Robinson family owns nothing, since the cook still belongs to herself and not to them. Are we to conclude that the Jones family is therefore better off than the Robinson family—that the Robinsons have definitely made themselves poorer by choosing a cook instead of a car? Assuming that they act reasonably, they have not. They definitely believe that having made their choice they are at least as well off as if they had chosen otherwise. For what they have paid for is not the cook, but the *services* she will render them; and what the Joneses have paid for is not really the car, but

the *services* the car will render them. In the last analysis, the Robinsons think they will get more satisfaction from the extra tastiness of their food, and the comparative lack of trouble in preparing it, than they would from the extra speed and pleasure in getting from place to place in a car rather than on foot or by train; and the Joneses think the opposite. Each family really compares, not a cook with a car, but a set of satisfactions derived from one set of services with another set of satisfactions derived from another set of services. It is just the same when we are comparing goods which are consumed all at once—like bread or cigars or fireworks—with goods which are not consumed but only enjoyed, or rather which are consumed only very slowly—like houses or books or tennis courts. We compare the satisfaction we get from the one with the satisfaction we get from the other, and choose accordingly. *And these satisfactions, expressed in a money form, are wealth just as much as the goods from which they are derived.*

Capital and Income. It is convenient to express this by calling one sort of wealth Capital and the other sort Income. Now at this point we find ourselves, not for the last time, using words for the purposes of economics in a sense different from that in which they are used in everyday life. It comes as a distinct shock to hear that a cigar is just as much "capital" as a cigar factory, and that it is the satisfaction derived from the cigar which is income. When a well-known firm of trunk manufacturers said in an advertisement "A — trunk is a good investment, and its dividend is service" they meant this statement to have a striking and paradoxical flavour; and except to the economist, so it has. But to him it seems a perfectly obvious way of stating the

trunk's merits. Economics suffers more than any other science from having to use in an exact and scientific sense words which are loosely and widely used by the man in the street ; but however odd the results may sometimes seem, this vocabulary has to serve somehow, and we must try and put out of our minds the confusion arising from this common usage. However, even adopting its terms from everyday life, economics finds that its vocabulary is rather inadequate, so that many words have to do double duty. We shall find the word "income" used not only of satisfactions, but of a *flow* of goods, while the word "capital" is used not only of the values of goods, but of the goods themselves considered not as a flow but as a *stock*. ("Stock" is in fact an old word for capital in the everyday business sense.) Thus even the economist, picking his words as carefully as possible in order to avoid confusion, will say that a firm has a capital of £10,000 (that is, the value of the things it owns) and that the capital consists of so much land, buildings, machinery, patent rights and so on (that is, the actual things themselves). This is all very confusing and regrettable, but cannot be helped ; for economists who try to invent words to fit these different ideas, avoiding the old ambiguity, only get laughed at for their pains.

We can roughly say, then, that economics is the study of the phenomena arising out of the fact that some things are scarce. What is the use of this study ?

Why Economics should be Studied. Economics is worth studying for its own sake, as a mental exercise. Compared with the physical sciences, it is in one sense at a serious disadvantage because its conclusions cannot be tested by experiment under laboratory conditions.

But in another sense, regarded as a means of developing a well-balanced logical judgment, this very fault is an advantage. After all, there are few situations in either business, administration, politics or daily life which are amenable to laboratory tests. Economics develops one of the most valuable of all qualities—the sense of evidence; the faculty, that is, for judging the relevance and importance of various considerations without mechanical aid.

But few people are satisfied with a science which merely provides interesting mental gymnastics and serves no material purpose. And some have objected that as the main study of economics is, after all, business, it is quite a superfluous science, since its subject-matter could best be left to the business man. Now that is only a little less absurd than to argue that the study of zoology and evolution could best be left to the animals. It is of course true that the business man sees things from his own point of view a great deal more clearly than the outside student. But then we don't want his point of view; we want something a great deal wider. A rabbit, if it could speak, could tell us many things—and very interesting things too—about its life, which we cannot see ourselves; but even a super rabbit gifted with human intelligence could not tell us from its own experience anything about the laws of evolution. It is true that the rabbit might say these laws were no use, since no knowledge of them would help him to a hole when a fox was after him; and a motor manufacturer might say that a knowledge of economics was no use to him because it would not tell him just what shape of bonnet will best tickle the public taste. But that does not make either set of laws unimportant to animals in general, or to industrialists in general.

Nor, although the teachings of economics are general,

are they quite without practical use. No text book of economics will tell a business man exactly what to do at a particular moment, or give a Government full directions how to govern a State. But it will show each of them some of the pitfalls to be avoided. One cannot draft a satisfactory Coal Mines Act or even a tariff schedule, or plan a rationalization campaign, purely from an acquaintance with economic principles. But one can criticize these things in their light. Economics is no philosopher's stone, to turn everything it touches to gold; but it will help at least to distinguish gold from baser metal. It will help us to follow out the chain of cause and effect in the immensely complicated economic world of to-day, without being misled by pseudo-statisticians with axes to grind, by political cranks, and by newspaper "stunts" and scares. The knowledge thus acquired is useful to all citizens, but especially indispensable to all those who are discontented with the imperfections of the way industry is at present organized. Mr. Lloyd George once referred contemptuously to people who wanted "to pull down the whole fabric of modern society with crowbars and with cranks—especially with cranks." That is quite a justifiable description of reformers who try to tackle their job without an adequate knowledge of economic theory. Economics alone will not build a millennium; but in that building—and in whatever preliminary pulling-down may be necessary—it is an essential tool.

SUMMARY. *Economics is the science of wealth. Wealth consists of those goods and services which are scarce enough to have money value. The study of economics is valuable as a logical training and as casting a light on current events.*

CHAPTER II

CO-OPERATION, PRODUCTION AND THE MARKET

ECONOMICS, then, is the science of scarcity and of value, and we have got to study the way in which scarcity affects people's actions ; that is to say, the steps they take to remedy scarcity.

The Productive Process. This inquiry is a study of the productive process—the creation of wealth, capable of satisfying human wants, by the use of raw materials and natural forces which in their original state are not capable of doing so. The productive process includes the rendering of services, and so it is important to remember that the dairyman who delivers milk where it is wanted, when it is wanted, and in the quantities in which it is wanted, is a productive worker just as much as the farmer who owns the cows it originally came from. The classical economists taught that only work which resulted in a material object was productive. But they were wrong. Milk in a milk pail on a farm in Somerset has not, from the point of view of the final consumer in London, been produced at all ; for him, it is only a finished product when it is delivered on his doorstep. And if he is staying in a hotel, and the milk is actually put on his breakfast table for him, the waiter who puts it there has also, as a matter of fact, shared in its “production.” So that

remarks in the daily papers about "unproductive middlemen" need to be taken with several grains of salt. (Though whether there are not too many middlemen, and whether their services are not grossly overpaid, is another matter.)

Moreover, work cannot be called productive or unproductive according to whether we think its results good or bad, useful or useless. Workers in the opium industry, bootleggers, and porters at casinos are, in strict economic language, just as productive as farm labourers, coal miners and doctors. This may seem odd, and it is in fact rather unsatisfactory, because it twists the word some way from its accepted sense; but it is the lesser of two evils. For if once we start trying to rule out of discussion some forms of economic activity because they are harmful or useless, we have no idea where to draw the line; or at least, any line we may draw must be purely arbitrary. The pussyfoot will rule out distilleries; the highbrow will rule out Hollywood; one crank will rule out tea, and another meat; the lowbrow will disagree violently with all of them, but maintain that there is nothing productive about the work done by a teacher of Latin. Economists who try to settle these matters will find themselves called upon to judge between good and bad food, good and bad art, and even good and bad religion; and that is no part of any economist's job.

The only test whether an activity is productive or not is whether it meets a demand. Economists, as economists, can go no further than that. They cannot enquire whether the person who has bought an article is satisfied when he has bought it or throws it away afterwards, and say in the second case that the work spent

on making that article was unproductive. The work spent on making a Christmas pudding does not become partly unproductive when the small boy who has eaten his third slice begins to wish fervently that he had stopped at the second. The only question to be satisfied is this: "Is anybody willing to pay money for this work to be done?" If the answer is "Yes," then the work is, economically, productive. The opposite cannot be put so positively, because, as the first chapter explained, much economically important work is done for which no money is paid. But all work, for whose performance someone is willing to pay, is productive work, no matter how beautiful or ugly, useful or harmful, the product may be.

The productive process, therefore, covers the whole of economic life; and there is no activity satisfying a human want (unless we except spiritual wants) which falls outside it. This is a big field to cover; how is one to set about it? Are there any salient facts about this enormously complicated business of coping with scarcity which can be picked out and used to explain it? There are two such facts. The first is the division of labour; either the one-man-one-job division of labour which gives us carpenters, gardeners and fishermen, or the one-man-one-thousandth-of-a-job division of labour which gives us the employee in a mass production factory, spending all his working hours in tightening an endless stream of exactly similar nuts. The whole economic system is based on the division of labour; and that is one of our salient facts. The other fact is the really astonishing success of the whole process. It does not work perfectly—far from it—slums, unemployment, sweating, "dinners without appetites at one end of the town and appetites without dinners at the other" are there to remind us of

that ; but on the whole it does work. Millions of people spend their working lives producing things for which they individually have no use at all, each trusting that meanwhile others among those millions are producing the things they do want ; and their trust is, generally speaking, justified. The chaos we might expect is no chaos but a fairly efficient machine in some sort of running order. That is our second salient fact.

The Division of Labour. Let us take our two facts in order. Firstly the division of labour ; what are its characteristics and advantages ? There are two sorts of division of labour : simple and complex. In the first sort, one man makes one article or handles one material ; the one-man-one-job division of labour referred to above. This is that division of labour which is found in the separation of workers into skilled trades. Then there is the complex sort in which not only each trade, but each process within a trade, is carried on by a different set of men ; as in Adam Smith's famous example of pinmaking, in which (even as early as the 18th century) the comparatively simple work of manufacturing pins was "divided into about eighteen distinct operations."

Nowadays the process goes fantastically further. The motor industry, with its conveyor belts carrying a succession of slowly moving chassis past a row of workmen each of whom adds some new component, is perhaps the most striking example ; but even in the making of so comparatively simple an article as a pair of shoes there may be, in a big factory, between 150 and 200 men, working on different machines, to handle every pair.

The advantages of the division of labour have always been, in one form or another, a cause of enthusiasm

among economists. "Mass production," "scientific management," "rationalization," are all forms and refinements of the division of labour. These advantages are several. In the first place, division of labour means *specialization*, and when a man specializes the chances are that he will choose the job for which he is best fitted. There was a folk-song about the man who "swore he could do more work in a day than his wife could do in three" and changed jobs with her for a day in order to prove it. He had a very bad time indeed with the dirty dishes. The writer (presumably a feminist) does not say what happened to the wife. But if each of them had generally had to spend half the time ploughing and harrowing and the other half cooking and mending socks, it is safe to say that, what with his clumsy fingers and her inadequate strength, both the mending and the crops would have suffered.

In the second place, once a man has specialized in one job he acquires skill at that job far greater than if he had tried to do every sort of work for himself. "Jack of all trades is master of none," while the man who specializes makes himself in time into a far more effective working machine than he was at the beginning. Besides, division of labour leads not only to *increases in manual dexterity* but also to *increase of knowledge*; anybody working continuously at one job will end by knowing a lot more about it than if he had chopped and changed the whole time. This is particularly important because whereas manual dexterity cannot be passed on, knowledge can; so that the effect is cumulative as one generation of workers succeeds another.

In the third place, division of labour *saves time*, quite apart from the speeding up which results from the increase

of skill. In its simple form it saves constant changing from one set of tools to another, with all the additional waste of time which always occurs while a worker is settling down into a new job. Concentration is impossible to a man who is constantly changing his work; the division of labour, by keeping him constantly in the same occupation, saves this loss.

In the fourth place, division of labour *saves tools*; and this is, in modern times, perhaps its most important function, even more important than its saving in man power. An expensive machine is only worth while if its cost is to be spread over a great number of articles; but it will only produce a great number of articles if it is worked fairly continuously. And if it is to be worked fairly continuously it has got to be the business of one man or of one set of men to run it, and the production of those articles has got to be concentrated in their hands. It is not worth while to have a blacksmith's forge on every farm; if every farmer tried to do his own farrier-work it would have to be done by much more primitive methods. Only the division of labour which puts all smithy work in the hands of the blacksmith makes the forge possible. Still more is this true when the equipment in question is not a crude furnace with a leather bellows, an anvil, and a set of tools, but, let us say, an expensive linotype printing machine.

In the fifth place, it is only when labour is divided that any *conscious organization* is possible. Every organization beyond the most primitive, needs to have someone in charge of it, to plan out work, keep order, and generally be responsible. That is, in itself, a variety of work; and it is essential that one person or a group of specialized persons should do it. It cannot, of its very nature, be

divided up among the whole gang. Still more so a whole modern nation. Government is a full-time job ; business organization—financial, commercial or industrial—is a full-time job. It could not be carried on by people who had also to provide themselves directly with food and clothes and houseroom. This is proved by the history of the Trade Unions, which tried originally to govern themselves by mass-meeting decisions, and found that did not work ; then to be governed by leaders who did their organizing work in their spare time and kept on with their ordinary trade ; then, finally, decided that in order to be properly organized they had got to make organizing a full-time paid job ; to let their organizers, in fact, specialize. The same applies to research work, invention, and discovery of all kinds. They must be full-time jobs in order to produce their best results.

In the sixth place, division of labour *makes saving possible*. A community of peasants, each one of whom did all the work on his farm, kept his house in repair, and did not concentrate on one particular job, could save after a fashion ; but they would find it a very slow business. For saving does not consist in storing up food and drink (most of which will not keep for long in any case) but in doing work whose results will only be available in the future. Where there is a division of labour, a man who saves accumulates money and, when he has enough, buys the goods he has been saving up for ; because, in the meanwhile, somebody else has been making those goods. If nobody had been making them his money would be useless, and if there had been no division of labour nobody would have been making them, because everybody would be on the same footing and doing the same work. To put the point in a more abstract way :

Division of labour facilitates saving by allowing some to concentrate on the production of goods for future use, while others keep them in exchange supplied with goods for current consumption. We shall hear more of this when studying Capital.

Finally, division of labour between human beings makes possible *division of labour between areas*, by allowing groups of people to specialize on producing the things or performing the services for which they are best fitted. The results of this particular kind of division of labour—of the “localization of industry”—are so enormous that we shall need to study them in detail later; they cannot be treated at this stage.

These are the main advantages of the division of labour. Readers can easily think up further concrete examples for themselves. But, our second fact still remains unaccounted for. How does the whole thing work? The worker in a motor factory who will never own a car and may not even want to, the clerk in a big stockbroker's who keeps his own savings in the Post Office and has no personal interest in the business of investment, and the doctor attending to other people's ailments while he himself is always in perfect health—all these are not producing things even partially for their own consumption. How is it that their work manages to dovetail in with other people's work so that everybody's primary wants, at least, are to some extent satisfied? Here is a very complex machine made up of pieces each of which is working on its own account and in its own interest, and yet each of which depends on all the others for the necessities of its existence. This machine does not invariably produce the right amounts of everything, that is true; but it generally does. How does this happen?

Price and Equilibrium. The answer lies in the word Price. Prices are put upon things which are scarce and which are also wanted. They must be both; no one will pay a price for air (if we leave deep mine shafts and such places out of account) because although it is certainly wanted there is enough of it to go round anyway; and nobody will pay a price for an albino mosquito, because although it is certainly scarce it is also unwanted. The price varies according to how scarce, and how much wanted, the article is; and it is always such as to restrict the demand to the amount available. It is like a thermometer; its movements show, for every commodity and service, whether more or less ought to be produced in future. It is the movement of prices which leads the whole economic process towards a state of *equilibrium*. Equilibrium, in economics, means a state of affairs in which no consumer of goods and services wants to divide his resources differently (the Jones family, which were mentioned in the first chapter, do not want to exchange their car for a motor-bicycle and have a char-woman, and the Robinson family do not want to dismiss their cook and buy the car) and no producer finds it worth his while to turn out less, or more, of whatever his particular product may be. In equilibrium, "no change" is the policy which pays best. If conditions alter, so that consumers want to allocate their incomes differently, or a new invention makes it possible to turn out more goods in a given industry at the same cost, it is the movement of prices which shows what sort of readjustment is necessary in the economic machine to meet the changed conditions, and automatically leads to those adjustments being carried on until equilibrium is reached once more and it no longer pays to make further changes.

The process is by no means perfect. The tendency of the economic system to settle into equilibrium is often compared with the tendency of water to find its own level in a system of communicating tanks and pipes ; but to get a realistic picture of the extent to which this tendency works out in practice we should imagine that our tanks and pipes are filled not with water but with heavy oil, which trickles slowly and stickily, and that moreover the whole apparatus is being often jolted about and pushed out of shape by forces from outside. But although the process may never be actually completed it is absolutely necessary, if we are to understand the laws which govern the movement of the liquid, to realize that it would find its own level in time if left to itself ; and similarly, however unreal the idea of economic equilibrium may appear in a world of economic flux, it remains the central point of all economic theory. The remainder of this book (apart from the last three chapters, which deal with some causes and results of *dis-equilibrium*) consists in the analysis and explanation of the way equilibrium is reached in different parts of the economic system, and how the equilibrating force of price manifests itself. For price does not only act as a thermometer ; we may also say that it acts as a thermostat. In economic language, price moves according to supply and demand, and supply and demand in turn move according to price. It is with the exact nature of this all-important action and reaction of price, demand and supply that the remainder of this chapter and those which immediately follow it will be occupied.

Price in the Market. To start from the very beginning. How is a price arrived at in the first place ? It would be quite impossible to look at the whole economic field and

try to explain how every commodity and service comes to bear the price it does, but we can see what general principles are at work by looking at one single commodity and trying to explain the price of that. We want to simplify the question as much as possible; therefore we choose a case where the only thing to be considered is the effect of supply and demand on price, not the effect of price on supply. That can come later. We shall choose, for this explanation, a case where no movement of price can make any difference whatsoever to the supply; where there is a stock of goods which, at one price or another, has got to be got rid of. Such an example is provided by a fish market. Fish will not keep, so the whole day's catch has got to be disposed of; and no more can be had till the boats come in again next morning, so buyers can have only what is already there. Under these conditions, how is price fixed?

The Nature of a Market. Before answering this question, one or two things have to be made clear about the market itself. The whole point of a market is to bring buyers and sellers together. When a market is working perfectly every buyer can buy equally easily from any seller—that is, he can get equally easily to each stall, knows the prices being asked at each, and has no preferences apart from price. And every seller knows what price other sellers are asking or getting. In studying this perfect market, therefore, we assume perfect knowledge and perfect freedom of choice. Then, also, since we are trying to make our example as simple as possible, we will rule out variations of quality. We will assume that all the fish in the market are of the same grade, so that all can be assumed to be worth the same amount. We will assume,

too, that neither buyers nor sellers have got together beforehand amongst themselves and agreed what price to ask or offer. We assume, that is to say, free competition on both sides. Given these assumptions, the way is clear for us to go on and answer the original question, "How is price determined?"

SUMMARY. Production is the satisfaction of economic wants, of whatever description. Production on the modern scale is made possible by the division of labour, which allows the advantage of specialisation to be reaped, both as between men and as between areas, and saves time and machinery. Production is regulated, and equilibrium maintained, by the movement of prices. This movement can be most easily analysed in the market under conditions of free competition and perfect knowledge.

CHAPTER III

HOW PRICES ARE FIXED : DEMAND

WE have had to clear away quite a lot of undergrowth in order to reach this central question of price-determination. In particular, we have simplified a great deal by so choosing our example that the sellers' point of view can be left right out of consideration for the time being. But even in studying demand—that is, the buyers' point of view—we have to take one step at a time. We want to know why the buyer will give so much, and no more, for so many fish; and to find this out we must answer an apparently rather childish question: "Why do the people in the market want to buy fish at all?"

Balancing Alternatives. If they were not going to buy fish, they would spend their money on something else. The fact that they buy fish shows that they prefer it, just then, to the other things they might have bought for the same money—eggs, or meat, or postage stamps, or whatever you like. We can imagine a buyer at the stall subconsciously balancing in her mind the importance of four herrings compared with a vague bundle of alternatives of this sort represented by so many pence; and the number of pence she is finally willing to give for the herrings depends on how the balance is struck between them and

these alternative uses for her housekeeping money. The answer to the first question—"Why do people buy fish?" is, therefore, that they buy a certain amount of fish because they prefer fish up to that amount to anything else they might get for the money.

It follows that the more importance they attach to fish, the more of other things they are willing to forgo in order to get fish; that is, the higher the price they will pay for it. The price of fish depends on the attitude of the buyer towards fish, which depends, in turn, on the alternative ways in which they can spend their money, and their attitude towards those alternatives. The demand for any one commodity is linked with the demand for all other commodities, and their prices are linked accordingly. That is one of the most important things to remember in economic theory; however hard we try to isolate one particular set of transactions, we cannot get away from this balancing of alternatives which lies behind demand.

It should be noticed, too, that we have spoken throughout of comparative preferences, the balancing of one thing against another; never of absolute needs. It is not necessarily the person who needs fish most who will pay most for it; for there may be other things which are making equally urgent calls on his resources.

Diminishing Utility. This brings us to our second point. Nobody balances in their mind "fish" in the abstract against "money" in the abstract. They think of *so much* fish, compared with *so much* money. And the comparative importance of the fish and of the other things depends on the amount of fish they are thinking of. Our buyer at the stall in the fish-market may decide to offer sixpence for four herrings, but she certainly would not

offer £2 10s. (or 600 pence) for 400 herrings. Four herrings are useful; 400 herrings, to an ordinary housewife, are merely a nuisance. She would not take them as a gift. And what holds good of the extremes also holds good between them; she might have some use for twenty herrings, if they were given to her, but would not think of buying them; and she might buy ten or a dozen, but only if the price had come down—as the diagram shows. (Fig. 1).

This is just one example of a general truth. We are really dealing with an instance of what is called in econ-

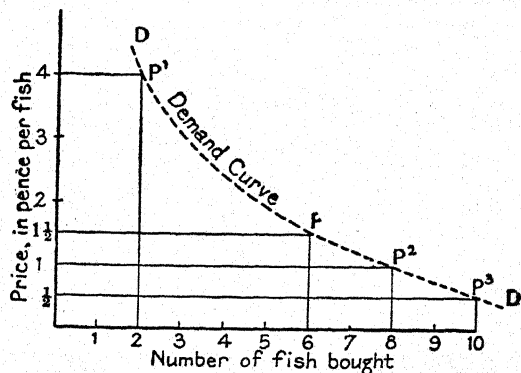


FIG. I.

omics Diminishing Marginal Utility. This expression sums up the fact that as we get more of a thing, each succeeding amount of it is less important to us than the one before. The first glass of water drunk when one is thirsty is an event to be looked forward to for hours in advance; the second is pleasant, so is the third, but the fourth the drinker may hesitate about. It does not

signify (the expression used is sometimes "Diminishing Marginal Significance") nearly so much to him as the first did. It is just the same with other things—helpings of pudding, or hundredweights of coal, or anything else.

There are, it is true, apparent exceptions. Readers may object that the more whisky one drinks, the more one wants to drink; or the more one reads, the more one wants to read. This is quite true, if we take into account changes of taste occurring over a period of time; but at any one moment the second glass of whisky, or the second hour's reading, is less important than the first. And it is the rate at which transactions take place at any one moment which interests us. Diminishing utility plays a part in settling every price.

Besides diminishing utility, there is always the fact that the more one spends on one thing, the less one has to spend on other things. If a man is furnishing a room, the number of chairs he buys is not only determined by the fact that more than four or five would hardly ever be used, but also by the fact that he has to buy a table and a carpet. And it must be remembered that just as each successive amount added to one's store of a particular commodity diminishes in importance compared with the rest, so each successive amount taken away increases. There is thus a double process at work to reduce the price one is willing to pay for each successive increment.

The "Margin." As for the puzzling word "marginal," that is used to show that although the importance of any one of a series of articles depends, to the buyer, on the number of these articles which he has in mind, it is not the *order* in which he buys them that matters. Any one of the four glasses of water may be taken to be the

"marginal" glass—not merely the last one, in point of time, to be drunk. The marginal article is the article which the buyer only just decides to buy, at a given price ; and so, if a certain number of articles (in this case fish) are on the market and must be sold, the price will have to be such that the buyers, taken together, will just decide to purchase the whole lot. For what we can say of Mrs. Jones, or Mrs. Smith, or Mrs. Robinson, applies also to the whole crowd of shoppers in the market. Their demands all add up to form a total, though of course they may each take different amounts at a given price ; and any one of them will offer less for each of a dozen fish than they would for each of half a dozen. The more fish there are, the less each fish will fetch.

Perfect Knowledge means a Single Price. Since we have assumed that everyone in the market knows exactly what is going on, there will be only one price for the whole market. If one man tried to charge more, people would go elsewhere, and if one man charged less, buyers would crowd to his stall and he would be able to raise his price at once. Thus it is not only the amount each stallholder has for sale, but the amount his neighbours have, which matters to him. We have worked round to the same position as that of our market gardener in the first chapter ; only now we know exactly why the value of his cabbage crop depended partly on other circumstances than the quality of those particular cabbages. Price is determined at the margin, and the position of the margin depends on the total amount available.

We can come a step nearer to the normal state of affairs—after all, most commodities are not in real life sold without a reserve price—by supposing that our

unfortunate fishermen can, in the last resort and if things get too bad, find some alternative use for their fish; they may, for instance, use them as manure. This means that if the price sinks below a certain level a new lot of buyers enter the field—the *sellers themselves*. Their margins are likely to be very different from those of the original shoppers, but they vary with the price in just the same way. The higher the market price, the less will be held back, or

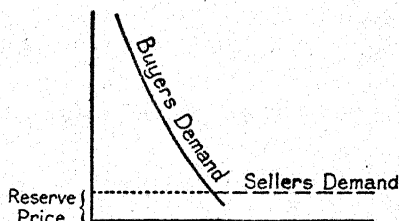


FIG. II.

“bought” back, by the sellers; and taking the market as a whole, the reserve price and the public demand are all part of the same thing in reality (Fig. II).

Elasticity of Demand. It is important to know just what difference the total amount available makes to the

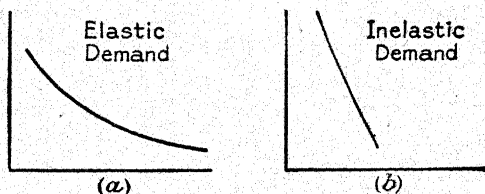


FIG. III.

price. Supposing the amount is doubled, we know that the price will fall off; but by how much? That depends on what is called the *elasticity of demand*. Elasticity of

demand measures the amount that the demand changes as prices change. If it changes a great deal, it is said to be very elastic, if it changes very little, it is said to be very inelastic (Fig. III). In the second case, very little more of a commodity is sold as the price is lowered; people want a certain amount, and are prepared to pay a good deal for it if necessary, but they do not want much more no matter how cheap it gets. Salt is a good example of a commodity of inelastic demand; to be cut off from the small amount needed to make food tasty would be a real hardship, but once that is provided little more is wanted at any price. In the second case, the amount sold increases rapidly as the price goes down; tea is a commodity of this kind. When it is very dear a little is made to go a long way; when it is cheap fresh pots are brewed more often, and much more is used. In our fish-market we are looking at the matter from the other side, looking not, in the first place, at how demand changes in response to price, but at how much price has to change in order to produce a given effect on demand. But it is the same process.

We can now, however, leave the fish-market for the time being and turn to generalities. The elasticity of demand for any commodity will vary with several causes. Two things have to be considered: the effect of changes in price on individual consumers and the fact that different persons have different incomes to spend. If the price of, say, books comes down, demand will expand in two ways to meet the movement; the people who buy books will buy more, and people who previously did not buy books will start to buy them. The elasticity of demand for cars is probably fairly small for the individual buyer; however cheap cars become, it is hard to imagine

any normal owner renewing his car or cars oftener than once a year. But for the public as a whole it is different; every time the price comes down a new layer of buyers is touched who had previously never owned a car at all. So we can say that the demand for a commodity which is too expensive for a large part of the public will be more elastic than the demand for a commodity which everyone is buying. It will have two ways of expanding instead of only one.

In the second place, the demand for a commodity which has many substitutes will (other things being equal) always be more elastic than the demand for a commodity which has none. The demand for beef is made more elastic by the fact that there are other sorts of butchers' meat; the demand for tea is made more elastic by the fact that people also drink coffee and cocoa. If one of these commodities gets much cheaper than the others, the others will lose some of their consumers, and the expansion of demand will be correspondingly greater than if its only source had been the increased consumption of the original buyers. And if the price rises, the falling off in demand will be correspondingly more rapid because consumers, feeling the pinch, can turn more easily to alternatives. This is all the more true when the commodity in question is only very slightly different from its competitors—as the produce of any individual manufacturer differs from that of his next-door neighbour in the same line of business. It is most true of all when there is no difference at all; the elasticity of demand for part of the supply of a commodity is always greater than that for the whole. For instance, the elasticity of demand for coal, taking the whole world together, is small; while the elasticity of demand for British coal,

or German coal, or Polish coal, taken separately, is much greater.

Finally, the demand will generally be more elastic for commodities which take up a larger proportion of one's income than for those which only take up a very small one; simply because one hardly thinks about the very smallest items. The demand for salt is very inelastic, partly because there is no substitute for it and partly because so little is spent on it in any case; the demand for sewing cotton is inelastic because the cost of sewing cotton is so small a part of the cost of making clothes that nobody worries much about it.

Here a word of warning is necessary. It is not nearly as easy as all that to pick out any particular commodity and say "If the price of this were halved to-morrow, the demand would behave in such and such a way"—showing elasticity or inelasticity as the case may be. The process

which goes on when a price changes from one day to the next is quite different from that which goes on when it moves gradually over a period of years. Demand can change not only because of price changes but also independently of them. A diagram (Fig. IV) will illustrate this: the line D^2D^3 , showing the demand curve after an independent increase in demand, is *above* the original curve DD^1 at all its points, whereas a change in demand following on a fall in price merely shifts the point P

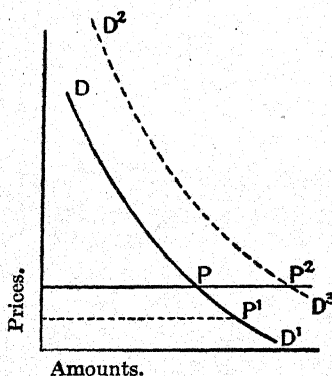


FIG. IV.

curve DD^1 at all its points, whereas a change in demand following on a fall in price merely shifts the point P

further to the right along the curve. Most big price changes come about so slowly, or are accompanied by so many other changes, that there is any amount of room for these independent intensifications or fallings-off of demand to get mixed up with the ordinary responses to price movement. The result of this fact is that while it is possible to calculate roughly how demand will react to small changes in price, it is quite impossible to make more than the wildest of guesses at what will happen if the change is a really large one. The scale of our diagram is really deceptive. Something like Fig. V would be much nearer the truth.

Monopoly Prices. This matter of the elasticity of demand has an important bearing on the great problem of monopolies. Let us go back to the fish-market and see what the connection is.

We saw that the equilibrium price must equate supply and demand; that is, that it must be just such as to tempt the "marginal" buyer to make his "marginal" purchase, which will just carry off the supply. Now if the supply is large and the demand is inelastic, this equilibrium price may be almost nothing. If there were enough herrings in a market for every possible buyer to have 400, then we can feel fairly certain that the price would not rise much above what they would fetch as manure. If, on the other hand, the supply is small, the price may be very high; so much so that a small catch, sold at the good price which results from the

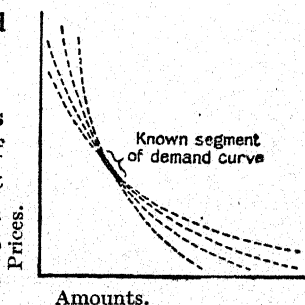


FIG. V.



scarcity, may be worth a great deal more than a large catch sold dirt cheap.

8,000 lbs. of fish at 6d. a lb. = £200 0 0
 16,000 lbs. of fish at 2d. a lb. = £133 6 8

In Fig. VI the dark-shaded area—the total paid when the price is 6d. per lb.—is obviously larger than the light-shaded area—that paid when the price is 2d. per lb. It is actually to the fishermen's advantage that the catch should be small.

Under competitive conditions this makes no difference.

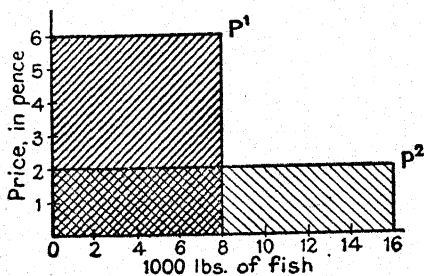


FIG. VI.

It would not pay any one fisherman to catch less, because it is the *total* catch that matters, and his contribution to that is so small that variations in it would have hardly any effect. But once the whole crowd of fishermen

put their heads together and agree to restrict their catches, it may be very important. For a "ring," or monopoly, which can effectively control output, can also control price, and thus gain an extra monopoly profit. In the example given above, the monopoly profit—supposing the fishermen had limited their catch to 8,000 lbs.—would have been £66 13s. 4d.

Elasticity and Monopoly. The effectiveness of a monopoly depends almost entirely on the elasticity of demand

for the commodity concerned. If the least variation of price causes demand to vary widely, a monopoly as such is not likely to be a very profitable concern; its control of output will give little effective control of price, since a rise will be immediately penalized and a fall will merely bring it nearer to the ordinary competitive level (Fig. VII). The elasticity of demand in turn depends, as we saw, on a variety of causes; and so the effectiveness of any monopoly depends on the whole series of considerations which we discussed above—the position in the range of incomes, the possibility of substitutes, the proportion to total expenditure, and so on. A monopoly in cotton or apples would be comparatively unprofitable beside a monopoly

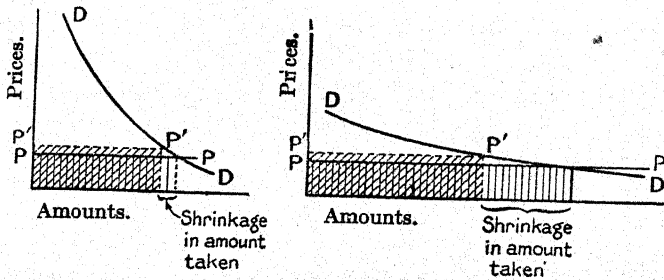


FIG. VII.

in wireless valves or in aluminium. It will be an excellent exercise for readers to work out the full list of reasons why this is so.

SUMMARY. *People buy things because those things are more important to them than the money they spend on them—more, that is to say, than the alternative ways of spending that money; and when the position is the other way round,*

instead of buying they sell. The exact price at which the sale takes place depends on the amount of goods available (the supply, which we shall be examining in the next chapter) and the buyers' attitude towards those goods, up to the margin at which they no longer think buying worth while. That is what is meant by saying that "price is determined at the margin." The responsiveness of demand to changes in price is called its elasticity, and this varies from one commodity to another. Monopoly profit arises when selling power is so concentrated that output can be fixed at the amount yielding a maximum total return, and therefore depends largely on the shape of the demand curve.

CHAPTER IV

HOW PRICES ARE FIXED : SUPPLY

IN the last chapter we got a broad idea of the play of forces behind the buyers' offers in the market ; that is, of utility and buyers' preference. The corresponding influence behind the supply side of the market is *cost*. Indeed the rôle of cost is so obviously important that the old classical economists, in trying to solve the price determination question, all studied cost and cost only, leaving the demand side right out of discussion ; and it is still a temptation to do the same. In the shops, prices are fixed and do not vary from hour to hour and day to day in response to changes in the amount of stock held and the numbers of the buyers, as in our imaginary fish-market ; goods are sold at so much above *cost* as will give a profit to the trader. It is easy to suppose that it is cost, not demand, which determines price.

Prices come before Costs. But these cost theories of price were misleading, and really it is all the other way round. Prices are not fixed at a certain level because of costs ; costs are incurred up to a certain level because, at the price ruling, there is a profit to be had by incurring them. The classical economists used to say that the price of an article depended, in the last resort, on the amount of labour that had been put into that article ; but they

were wrong. An article is not valuable because labour has been expended on it; the waistcoat buttons which Lewis Carroll's Ancient Ancient Man made out of haddock's eyes (picked up in the heather) must have cost a great deal of labour, but even without the poet's evidence on the subject we know that they would not fetch much. Who wants haddock's eye buttons? The truth is not that things are valuable because work has been put into them, but that work is done because the worker expects the finished product to have value.

Cost and Price Determination. Nevertheless, cost does play a part in fixing price; it acts indirectly, by limiting

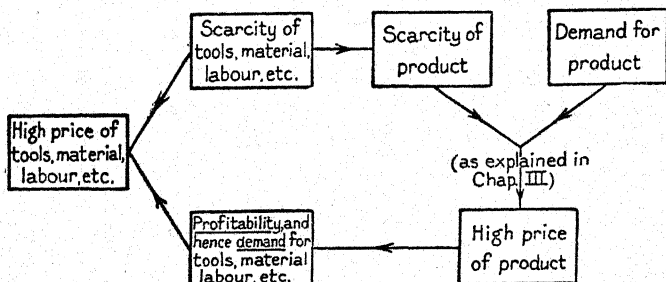


FIG. VIII.

the supply. We know that the smaller the supply, the larger the price for each item of that supply. And if the materials out of which, and the tools by which, a thing is made are scarce, the thing itself will be scarce, that is to say dear; and the materials and tools will be dear too. The way costs are determined can be illustrated by a diagram (Fig. VIII). The price of the product, which results from the demand confronted with the scarcity, makes it worth while to pay a high price for the

tools, materials and labour which are used in its production.

If we try to trace back the ingredients of the cost to the seller of an article in a shop, we find the price of the material, which is scarce; the wages of the various persons who worked on it and of the shop assistant who sells it (we saw in the second chapter that he is a productive worker just as much as any of the others) whose labour is scarce; and a share of the rent of the shop and the cost of the tools used, since shops, shop sites and tools are also scarce. Then we find ourselves still faced with the question of why the material cost as much as it did, and the wages, and the rent; and we start the whole process again with the cost of production of the materials, and the tools, and the shop. In the last resort, we always run up against scarcity. All the complication of the classical "Labour Theory of Value" is thus quite unnecessary. Things are dear because they are scarce, irrespective of how that scarcity is caused—whether by the fact that a lot of skilled labour has to be spent on them, or that their production takes a long time, or simply that there is very little of the original raw material in existence. Any of these reasons may make a thing scarce; but it is the scarcity that matters, not the way the scarcity is caused.

It must never be forgotten, either, that scarcity means scarcity relative to demand; and this has an important bearing on the question of costs. It means that cost, instead of being necessarily, as under the "labour cost theory" a real sacrifice, and an undergoing of something unpleasant in order to get a given product, becomes merely a foregoing of one product in order to get another. To explain this more fully: there is a certain amount of time at our disposal, a certain amount of coal and iron

in the ground, a certain amount of land which can be turned to various purposes, and a certain amount of human energy (and be it noted that the use of this does not necessarily mean a real sacrifice; work, up to a point, is a good deal pleasanter than having nothing to do). The question arising is: What use shall these things be put to? and the answer is: Which demand is the most urgent? Which, that is to say, offers the best price?

"Costs register competing attractions." Cost, therefore, simply arises out of the competition of various demands for a limited amount of the original factors of production. The cost of one commodity is really equal to the value of the alternative commodities which could have been made by using the same resources. An American economist, Professor Knight, has summed up the whole argument in four words: *"Costs register competing attractions."* The cost of coal, timber, land and raw materials generally, depends on the strength of the various kinds of demand competing for the physically limited supply.

This is not an altogether satisfactory explanation, because, although it is perfectly true as far as it goes, it gives no means of measuring the element of real cost—not merely the sacrifice involved in choice—which does exist in economic life. More work still has to be done than is at all pleasant for the workers; the growth of industry brings about a general uglification of town and country, soot and fumes defile the air and shut out the sun. These are real sacrifices to the progress of industry; but they are social and not individual costs, and so no money value is set on them and they cannot be estimated. Moreover, the price movements which decide what costs should be incurred are a very faulty index to the real urgency of

needs, because demand, as we saw in the last chapter, is merely a matter of relative preferences, and the inequality of incomes prevents different people's preferences being at all closely related to one another. If nine-tenths of the people cannot afford to pay rent for decent houses, while the other one-tenth are affluent, then man-power and building materials which are, by all social standards, desperately needed for slum clearance, will find no profit to attract them to that occupation and will be drawn instead into the business of building luxury flats. The price signpost is completely misleading, here, as an index of absolute needs. The economist, as an economist and as a citizen, has to bear these things in mind; but he cannot, except in the single case of the disagreeableness of work after a given point, link them up with the whole process of price determination. It is perhaps the chief limitation of economics that it does not provide the necessary tools for such a linking-up; the costs with which its analysis is concerned are all relative.

Our general conclusions, in regard to costs, is therefore that while they depend in the last resort on the balancing of competing demands against a limited supply of primary resources, it is no part of an economist's job to study in detail the ultimate causes of that limitation. If he did, he would find himself plunged into just those strictly technical questions, concerning industry, agriculture, and even psychology, that we ruled out in the first chapter.

The Interdependence of Costs. But if the economist finds that the study of the final nature of cost only leads him into a morass, it is otherwise when he turns to examine the way in which the cost of producing some things affects the cost of producing others. For costs are almost

all inter-dependent. Connections run in all directions. The explanation, given in the first chapter, of how the decline in the amount of housework done by women has affected the supply of fat cattle is just one instance of the repercussions of economic happenings; of how the whole economic structure hangs together like a spider's web, so that if one point is touched the whole fabric quivers. Almost anything that happens in the economic world can be described rather like the wedding at the end of "The House that Jack Built"—the outcome of a whole succession of causes. We shall see more of this later on when we come to study the productive process at work.

The reason for this complicated interconnection of costs is that so many things are produced jointly—like beef and hides, or wheat and straw, or coke and gas; and moreover, different resources can be turned to different uses—as coal is used for power in a number of industries, and steel can be made into machinery for a variety of purposes, and land can be used for houses or shops or factories or gardens. And on the other hand, things are also demanded together—like carts and horses, or brushes and combs, or bricks and mortar and timber; while others are supplied as alternatives to one another, like the tea and coffee we discussed in the last chapter. Thus we get the phenomena of *joint supply* (beef and hides), *composite supply* (tea and coffee), *composite demand* (steel for cars or steel for ships) and *joint demand* (carts and horses). Let us now examine the way in which the cost of producing goods which are connected by any of these relationships is affected by them.

Take, in the first place, the question of *Joint Supply*—the simultaneous production of, let us say, wheat and straw. The first thing to be noticed is that the costs cannot be

determined separately. The cost of grain and the cost of straw, added together, equal the cost of wheat ; but that is as far as we can go. Hence it follows that these costs must move together. Assuming that the demand remains constant, if grain becomes cheaper straw will also become cheaper ; for as more of the one is produced more of the other has automatically been produced also, and with the increase of supply and unchanged conditions of demand the price is bound to fall. One price may move more than the other, supposing that one demand is more elastic than the other ; but they will move in the same direction. If, on the other hand, there is an independent change in demand, the prices may move in opposite directions. If more stock are bred in a country, so that more straw is required for bedding, the result will be that the price of straw will rise independently of what happens to the price of grain ; and if more wheat is grown as a result, the price of grain will fall, since the demand for that is not altered.

Composite Supply has already been touched on in the last chapter in connection with the causes controlling elasticity of demand. Compositely supplied articles being partial substitutes for one another, their prices will be apt to move in the same direction in response to changes in demand ; but they are not linked on the supply side at all. The cost of producing tea has nothing to do with the cost of producing coffee.

Composite Demand is nearly as simple. Take the case of steel, which can be used for purposes ranging from battleships to safety-razor blades. Suppose war is declared, and a new demand arises for armour plates for ships. More steel will be needed for that purpose,

and less will be available for cars and cutlery, so prices will go up all round. The relation is not so direct as in joint supply; an increase in the cost of producing ships does not necessarily mean an increase in the cost of producing cars. But if that increase is due to a rise in the price of steel, then it will be spread over all the commodities into whose production steel enters, so that an independent increase in the demand for one product of a compositely demanded commodity will tend to raise the price of all the others. There is a general likelihood that the prices of all articles made of steel will be subjected to the same influences on the cost side, whatever happens to the demand.

There remains last of all the question of *Joint Demand*; that is, of things which supplement one another, like bricks and mortar, or pipes and tobacco. If the cost of producing bricks goes down, the price of houses will fall, the demand will expand, and the price of mortar will go up. As with composite supply, the link is indirect, through demand; there is no direct connection on the supply side.

Practical Investigation. Enough has been said to show the lines on which one should investigate when trying to follow out the economic consequences of a change in the price of any particular commodity. One must look around to see whether it is produced jointly with any other; whether its manufacture draws on the same raw materials or other resources as other commodities, and if so, which; whether it has many close substitutes; and to what extent it supplements other commodities. When all these lines of investigation have been followed up, one can go a step farther and see in the same way what is

the position occupied by the other commodities affected. In practice, almost all economic investigations are of this nature; the theoretical apparatus which we discussed in the last chapter has comparatively little direct bearing on day-to-day economic problems. Readers may test their grasp of the subject by tracing the effects of, say, a sudden craze for thatched roofs on the price of wheat, the supply of tiles, the demand for straw-bottomed chairs, and the wages of thatchers; carrying the investigation on, if they choose, to include such secondary effects as may result on the receipts of canal companies, the demand for gutters and rainpipes, and the sales of fire extinguishers.

The last chapters have given an outline of the elementary workings of the laws of supply and demand, first in the market for a single commodity, then in the process of sorting out resources between different uses, and finally in the interconnections between different commodities. We shall have to return later on to the subject of cost, and study it from a different angle; but first we must pass from the study of principles in action to the study of the materials on which they work; and that will be the task of the next five chapters.

SUMMARY. Supplies are limited by cost, since people will incur costs up to the ruling price but not beyond. Costs in turn arise because primary resources are scarce, and represent the sacrifice involved in using these for one purpose rather than for another. The costs of different articles are often connected, because some things must be produced together (joint supply), others serve similar purposes (composite supply), others are only useful together (joint demand), and most can be turned to several different uses (composite demand).

CHAPTER V

THE FACTORS OF PRODUCTION

WE have now a fair idea of how this demand-and-supply mechanism works over various periods of time. The next thing to study is the material limits to its action. What is the stuff it works on? How are the finished goods, whose exchange we have studied, produced in the first place?

The Raw Material of Economics. The older economists used to divide up what are called the *factors of production* into three: Land, Capital and Labour. This division is no longer considered sufficient; for land and capital really cannot be distinguished, and both capital and labour are of so many different sorts that they can hardly be lumped together. Even the older economists, as a matter of fact, admitted that they used the word "land" as a kind of shorthand for *all those factors of production whose supply cannot be increased*—like water-power, and sites in such-and-such a position, and mineral springs, and ore and coal seams, quite as much as the agricultural land which they mostly discussed. But there are a good many things which they would have called "capital" which are nearly as hard to increase (like slow-growing timber, for instance) and most of the value of

FOUR MAJOR CLASSIFICATIONS

land in established settlements is really due to improvements made in it by labour. The two categories shade into one another too gradually for any hard-and-fast definition.

The distinction between the two sorts of capital corresponding to the old "Land" and "Capital" divisions really depends almost entirely on the length of time we have in mind. If we are only considering, say, five minutes' time, then the available supply of almost anything is limited for that time. One cannot even increase the supply of hard-boiled eggs—let alone of egg-cups to eat them out of—in five minutes. But if we are considering a month, or a year, or ten years, more and more things come under the "elastic supply" heading; into the group, that is, of things whose number can be increased at will. For hard-boiled eggs, it makes all the difference whether the time concerned is five or ten minutes; for wheat, whether it is a month or a year; for a railway, whether it is a year or ten. Certainly it is misleading to follow the example of the classical economists and make one division serve for all possible periods.

Four Major Classifications. Nevertheless, some sort of division is necessary. The laws of supply and demand are the same everywhere just as the laws of gravity are; but we would not expect to see the same results from the action of gravity on water as on ice or on feathers, and in just the same way we see the laws of supply and demand acting differently on different factors of production. One could, in fact, classify these simply according to the way they respond to changes in demand, but this is an abstract and rather forced classification and will not be used here. The classification we shall be using is rough

but closer to reality than the old classical one. It is a fourfold division, which is really a splitting up of two big headings—*Work* and *Capital*, the two factors which enter into all production without exception, though of course the proportions vary. *Work* is divided into two kinds; routine labour, or even fairly responsible labour, which is done under orders, and for which wages and salaries are paid, and responsible management of the highest order, or “enterprise”—the work, that is to say, of the head of the firm; while *Capital* is divided into *Fixed Wealth* (which includes land) and *Loan Capital*. Man power, managerial capacity, fixed capital, and loan capital—these are the four great factor-groups whose combinations and peculiarities we shall be studying in the next few chapters.

1. *Fixed Capital*. Of these four main groups, fixed capital is the simplest to deal with. We saw in the first chapter that capital is merely an aspect of wealth—wealth *at a moment of time*. In discussing Production, the word generally, though not necessarily, has a narrower meaning. Strictly speaking, we saw that a cigar is capital and “produces” a direct satisfaction which is income; but in this discussion the word is used in something much nearer its usual business meaning, that is, a thing yielding revenue in money or marketable goods. There is no logical distinction at all at the back of this; it is merely more convenient, since it allows us to speak in terms of money and so to get away from subjective satisfactions which cannot be measured. Also, it is better common sense. We shall, in the course of the discussion, be examining questions of rent and interest, of rate of turnover, and so on. There is no logical reason why interest should not be paid for

the loan of consumers' goods, but in fact it generally is not (with a few exceptions such as the hire of fancy dresses), so such goods in the consumers' hands are not included.

Are Human Beings Capital? The standards by which things are included or excluded from capital are largely a matter of convenience. For instance, there has been some argument amongst economists as to whether free human beings themselves should be included in capital. There are arguments possible on both sides. If they are not included, then we get the paradoxical situation that a nation which frees its slaves (free labour being notoriously more efficient than slave labour) grows poorer; and that it makes no difference to a country's capital wealth if half its working population is killed off in a war. If, on the other hand, they are included, other difficulties are possible; for if human beings and their belongings are lumped together, how are we to distinguish, in making up our capital account, between a large poor population—say that of China—and a small wealthy population—say that of Holland? Down at the bottom, the trouble is really our old acquaintance of the first chapter; that of setting a value on things which do not come into the market. Actually, if Chinese coolies and Dutch bulb-farmers were put up for sale together, the Dutch bulb-farmers would fetch more. Even making allowances for the fact that they would not work so hard in slavery as in freedom, they would be likely to do more valuable work than the Chinese coolies. We shall see later just how their price would be determined; meanwhile it is enough to point out the obvious fact that the more productive of two instruments of production has the higher capital

value. On balance, it is probably best not to include men and women in capital. Slave labour is uncommon enough in these days for the dilemma of a slave population to be neglected and changes in the population of a country are likely to be reflected correspondingly in the productivity of its capital in the business sense; for instance, an improvement in the national health which allowed the aggregate number of working days lost through sickness each year to be cut down by half would, under this arrangement, not appear directly in the national account as an increase in the capital value of the population, but be reflected in the increased output of factories and machinery. It would be their value which would rise, as they became more productive.

Free Goods. A rather similar question arises over the place of free goods like sun and wind and water-power. As we have seen, it is very seldom that air and water command a price directly. But a dwelling-house site which faces south, or a factory site which has access to water power, command better prices than others which lack these advantages; they have a higher capital value. As the free goods cannot be valued separately, but only thus indirectly, it is as well to follow the same course as we did when we were discussing human beings, and to leave them out of the capital category.

On the other hand, the decision of some economists, to call nothing capital which is not material, leads to such forced definitions that it is best abandoned. Patent rights, franchises, and copyrights are certainly capital, and it is hardly unreasonable to put investment in, say, a good technical training on exactly the same footing as investment in a good set of tools.

Classical Distinctions. A great deal used to be made of the distinction between "fixed" and "circulating" capital—between things like machinery and buildings and things like a retailer's stock of goods, or raw materials. As their names indicate, one set of things remains the same, while the other is constantly changing. Arguments turning on this distinction formed a great part of 19th century economic controversy. Nowadays it is practically neglected in general economics, though we shall see later that something very like it has its importance when we are studying the individual firm. The reason for this comparative neglect is like that which has caused the land-capital distinction to lapse. It is that we cannot draw a clear enough dividing line; it all depends on the length of time we are thinking of. Machinery may be fixed for ten years, but comparatively little is fixed for twenty. The old economists had quite a lot of difficulty in deciding what was the place of a farmer's stock. His plough-horses, they decided, were fixed capital and so were his milch cows; but if he raised pedigree stock and sold it, that was circulating capital! A distinction which lets one in for that sort of thing is better avoided. This is a pity, because the words could quite conveniently be used for our two divisions of "fixed capital" and "loan capital." But until the old use is forgotten that would be too confusing; and also it would conflict with business usage rather more than is satisfactory. The term will therefore be avoided as much as possible; and the word *capital* will be used, in the discussion of production, to cover all goods commonly serving as sources of revenue

Capital an Ally of Human Labour. The function of capital is to supplement human labour in production,

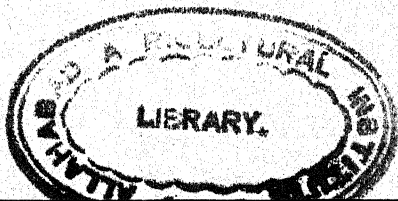
adding to its efficiency. By means of capital, things can be accomplished which human labour by itself—that is, without tools of any description—could accomplish either not at all or only very inadequately. Our strength and dexterity, as they stand, are limited. The human hand, as the Austrian economist Böhm-Bawerk pointed out, is “too rude as against the structure, too feeble as against the mass” of the material on which it works; therefore men must use microscopes and blasting-powder as allies. They must work roundabout, seeking their ends indirectly, bringing in more and more of these allies; in the long run the roundabout way is the shorter. One of Böhm-Bawerk’s examples is that of the man living a couple of hundred yards from a river and—naturally—feeling thirsty from time to time. The direct and simple means of meeting his needs is to go to the river each time and drink; and a very wasteful method it is. He can save himself trouble by taking a more indirect way; that is, by making himself a wooden bucket and bringing home a whole day’s supply at a time. The wooden bucket is capital, and performs the functions of capital in saving labour. But he can go further than this; by bringing in more allies—more capital—he can save even the daily journey to the river; he can take split and hollowed logs, put them end to end from his house to the bank, and so make a conduit which will bring him a far more abundant supply of water, with no further trouble on his part. By adopting the more roundabout method he has done what he could never have done without his material “allies.”

This is a very miniature example of what happens in modern capitalist production. The water supply of a large city is not a matter of wooden conduits, but the principle is the same. More and more allies have been

called in ; bricks and mortar, steel and concrete, to dam up distant rivers into reservoirs ; machinery for pumping and regulating, plant for purifying, an elaborate apparatus of cisterns and taps and pipes in each house. They are all capital. And the process is even more roundabout than it looks, for behind this capital there is the capital that went to make it—the steel works, the brick kilns, the coal and iron mines. Capitalist production begins with these *producers' goods* which look as though they had nothing to do with the final product, and by following a roundabout route achieves an enormous increase of efficiency. The more allies we call upon—the more capital that is, we have at our disposal—the greater will be our productive power.

It is not only material equipment that must be taken into account, but also the mass of knowledge required to produce and use it. Much of this knowledge and skill cannot, it is true, be included in capital, because it does not come on to the capital market—it is merely an attribute of human beings, from skilled artisans to scientific workers ; but when it is embodied in patents it has capital value and must be included with the rest. Patents are a private asset, while the great bulk of valuable knowledge is nobody's property and so is subject to no direct valuation.

2. *Liquid Resources.* So much for concrete capital—the material equipment of industry. The question of loan capital is a little more difficult, as it deals with abstract rights and not with concrete goods. When people lend, or invest money, what they do in effect is to put off into the future the satisfactions which they might have had by spending it, and allow someone else to enjoy



equivalent satisfactions instead. They are willing to wait for their enjoyment, either because they think they will need money more in the future than they do now, or because they think the investment will be profitable—the borrowers having promised to give back more than the original loan, that is to pay interest. (We shall see later, in more detail, what interest is). But whatever their motive, they all do the same thing; they exchange present satisfactions for a claim on future satisfactions. Because of this exchange of money, which can be converted into goods and services immediately, for rights which can only be so converted at a later date, land, labour and equipment are turned from the work of providing for immediate enjoyment to that of providing for the future; that means, they are available as extra allies in the capitalist process we spoke of earlier. Loan capital is the chief source of capital equipment; and it begins in turn with the willingness of lenders to put off satisfaction until a later date. In the last analysis, it is this disposition to wait which makes capitalist production possible.

The nature and function of these liquid resources can be most clearly shown by considering the goods consumed by workers who are engaged on producing things like railways and docks and machinery—things, that is, which will not bear fruit for some time after the work on them has begun. The food they eat, the clothes they buy, are a surplus over what is needed to feed and clothe that other set of workers which is producing consumers' goods. Workers producing capital goods, like others, have to be paid for their produce at once; and the machinery and docks will not be ready, still less paying their way, for some time. Their maintenance is provided for, in fact, out of *loan capital*—out of the sums raised by

the people responsible for building the docks or railways or whatever it may be, and paid out in the form of wages.

The wages of the workers who are producing immediate consumption goods are not paid out of loan capital. They are paid out of the proceeds of the things they are making. But in so far as there is an interval, between production and sale, longer than the period for which the wage is paid—generally a week—loan capital is drawn upon to keep them going until the proceeds come in. Loan capital can be compared to the flywheel of an engine; it keeps the whole producing-and-consuming machine turning over smoothly and steadily, although the impulses which drive it—the work done on the one hand, the flow of finished products on the other—are discontinuous and irregular.

3. *Population.* It is a relief to turn from the complexities of loan capital to the comparative simplicity of population theory. There can be no confusion, once we have ruled out the possibility of lumping people and their equipment together, between population and the other factors of production. The only point which needs emphasis is that while the maintenance of capital equipment and loan capital are only means, that of the people who work them is an end. In discussing the theory of population, the central fact is that man is both producer and consumer. If there are more people in the world, they will both produce and consume more.

Every extra person in the world means an extra pair of hands to work—"With every mouth, God sends a pair of hands"—and the more people there are in the world, the more scope there is for the division of labour. We saw in Chapter II that it is only worth while to specialize if

there is a market for the goods produced ; there would be no possibility of making a Ford works pay if there were only one thousand possible buyers of Ford cars. As population grows, specialization can grow too. On the other hand, every extra person in the world means an extra mouth to be fed. From these facts some interesting conclusions arise. They can best be dealt with by way of a concrete example.

Diminishing Returns. We will take the example familiar in classical economics—that of agriculture. Suppose a farmer has so many acres of land, and is deciding how many men he needs. To employ one man only would mean such inefficient farming that the yield would be tiny. Two is better—more than twice as good, but still not good enough. With three he can make a shift. With four he can really run the farm properly. The produce he gets by employing four men is far more than four times what he would get by employing one man. He hesitates at employing a fifth ; he does so, but finds that although the yield of the farm is increased the increase is less than that which followed on the fourth man's engagement. With a sixth man, the falling off in output per head is still more marked. Land will not respond indefinitely to extra hoeing and tending ; cattle and horses will not breed more than once a year however many workers are looking after them. There is, after a point, a *diminishing return* to labour.* Remembering that each additional man will want as much to eat as any of the others, we see that there is at any moment a very definite limit to the number who can get their living off any given piece of land. The extra mouths

* See Appendix I.

will need as much food as ever; the extra hands produce less and less.

The Classical Theory of Population. Matters are, of course, improved by the fact that the increase of population always makes more division of labour possible than before. As one cause—the limited supply of land—works to decrease returns per head, the division of labour works to increase them. Classical economists did not pay so much attention to this fact as to the other. They quite understood that division of labour did increase returns, but they only thought about that in connection with manufacture. And as, after all, people live first and foremost on food and not on manufactured goods, they concluded that as population increased it would inevitably run up against diminishing returns. People would get poorer and poorer until starvation or the fear of starvation prevented them from marrying and having families, and that would stop the increase.

This classical theory of population was a fundamentally pessimistic one. The classics seriously underestimated the progress of science and seriously overestimated the connection between wage rates and birth rates. They had, in fact, no idea that invention and discovery could so increase the world's food supplies as they have done; and they believed that almost inevitably anything which made people better off would encourage them to have so many children that the whole improvement would be cancelled. Some thought this trait in human nature could be changed; others that it could not. But in their view of the population question they all agreed that there was a strong tendency for too many people to be born into the world and that the fewer there were, the better. They would

doubtless have allowed that this argument was quite absurd if pushed to its limits—of course a solitary family on an unpeopled earth, even with all the resources of the world to draw on, would be miserably ill off. But they certainly regarded an increase of population as an evil.

Modern theory. Modern economics takes a very different view of the matter. For one thing, history has shown that there is no inevitable connection between wage rates and birth rates. In England wage rates have risen and birth rates fallen throughout the hundred-odd years since the time of the classics. When people are earning good wages they begin to see the advantages of having two or three children, and bringing them up comfortably, rather than seven or eight and living on bread and margarine all their lives. It is when they are so wretchedly poor that they could hardly be any worse off, that they go ahead blindly, and spoil any chance of comfort they may have, by producing large families. Of course from one point of view this is very lamentable, because it means that the population gets largely recruited from rickety, undersized slum dwellers, and from others who may have sunk to the bottom not merely through ill luck but because they belonged there—in a word, from the unfit; while those families which are better fitted to have children, being better fed and clothed and housed, healthier, and quite possibly cleverer, often have none and so die out. On the other hand, this fact of the “differential birth rate” as it is called, is really hopeful, for it breaks the old vicious circle of the classical theory. It means that the social reformer need no longer be haunted by the fear that a devastating flood of new babies will

swamp out the effect of his good works. On the contrary, he can feel some confidence that, as he raises the standard of living of these same depressed slum-dwellers, the disproportion between their birth rates and those of the more comfortable classes will grow less, and the quality of the whole people be thus improved.

The Optimum. Modern economics, therefore, is not particularly concerned with the old question of wage rates and population. There is simply not enough connection to be worth bothering about. But that does not mean that the population theory has ceased to exist. It is still very important for any nation, and for the world as a whole, that its population shall be as near as possible to the best number; the number, that is, which can produce most per head and consequently live most comfortably. To put it more plainly; obviously, if there were barely standing room on the earth its inhabitants would be worse off than they are now. On the other hand, a single family on an empty earth would be nearly as wretched. Where, between these two extremes, is the best spot? That is the question with which economists have to deal to-day when they discuss population; the question of the optimum or *best* number. This optimum number will not always be the same. The optimum for an absolutely barren desert is none at all. The optimum when that desert is irrigated and blossoming like the rose may be anything. The optimum for England in the early nineteenth century, when she had to live almost entirely on the food she produced herself, was a great deal less than the optimum a hundred years later, when ocean steamers were bringing her plentiful supplies from overseas.

Changes in the Optimum. Changes in the economic structure of a society—in the way its farms and factories are run, in their size and equipment, in the railways and roads and canals that link its towns, and in its trade with the outside world—always make a difference to this optimum, one way or the other. Generally speaking, apart from wars and revolutions, these changes are mainly such as to make it possible for more people to live in each country than did a hundred years earlier. But they do not always make it possible for more to live in the *same spot*, following the *same trade*, than a hundred years ago. There is an optimum distribution of population, as between different occupations and different places, as well as an optimum total number. During the nineteenth century, for instance, there was a great shift of population in England from the country to the towns. The rural population did not actually grow less; but it had to become a very much smaller proportion of the whole in order to fit in with the distribution which fitted the new technique of the Industrial Revolution.

Optimum Numbers and Optimum Distribution. In discussing the population of a country at any time, therefore, there are two questions which an economist has to answer: "Does the number of people in this country correspond to the optimum?" and "Are they distributed between places and occupations in the best possible manner?" And if, when he has answered these, he finds that neither numbers nor distribution are the best possible, he has to disentangle the troubles arising from one maladjustment from the troubles arising from the other. Neither of these is an easy job. In fact, the most eminent economists

have disagreed violently as to whether, for instance, Great Britain is overpopulated, or whether her unemployment problem has only arisen because there are too many workers in some industries and places and not enough in others. It is as well to say quite frankly that in this field, although economics knows what questions have to be answered—which is plainly something—it does not yet know for certain how to set about answering them. We still have no way of determining with scientific accuracy just where maladjustment is and how it should be remedied.

4. *Enterprise.* Of the last of our four factors, managerial ability or enterprise—the word most commonly used in economics—we need only say that it acts on the others as a magnet does on iron filings within its field ; it organizes them and forms them into productive units. The *entrepreneur* (this is a convenient French word, meaning the head of an enterprise) is the link between the unorganized factors of production—raw materials, steam power, man power and so on—on the one hand, and the mass of unorganized consumers on the other. Consumers are really very vague about what they want to buy ; few people go to the trouble (even apart from the extra expense) of having many of their possessions made to their own specifications. The entrepreneur decides for them. And on the other side, a crowd of raw hands turned loose in a factory, even if they had all the materials necessary, and were able to sort themselves out among their different occupations (which would itself be hard), would find it practically impossible to do the necessary buying and selling and to decide on questions of policy. There has to be someone to organize ; to give orders, and to make

decisions. That is the job of the entrepreneur. It should be noticed that mere routine management—keeping an eye on the clerks in an office, and seeing that orders from above are carried out—is not enterprise, any more than police work is government. The entrepreneur is the man at the head of affairs; the man who is responsible only to himself, having no one over him to give him orders. To decide just how important and necessary he is, and how highly his services have to be rewarded, is by no means the least important problem of practical economics.

This concludes our study of the four big factor-groups considered in the abstract. Our next two chapters show what laws govern their combination into industrial units, and deal particularly with the question of size and mass production.

SUMMARY. *The classical division of the factors of production into land, capital and labour, is no longer considered satisfactory. They are studied under the heads of Fixed Capital, Loan Capital, Labour and Enterprise. Fixed Capital, allied to human labour, increases production; loan capital provides for the maintenance of workers whose products will only be useful later. There is a best, or optimum, size for the working population, below or above which produce per head falls off; but there is no direct connection between birth rates and wage rates. The entrepreneur, taking the initiative in organization, acts as a link between the factors of production and the consumer.*

CHAPTER VI

HOW THE FACTORS ARE COMBINED

CAREFUL readers of the daily papers may have been rather puzzled, in reading the first section of this book, at the unqualified assertion that an increase in demand raises price. We are always hearing in company reports and in newspaper articles that mass production, or a large output in general, makes things cheaper. Economics on the other hand apparently tells us that if more of a thing is wanted the price will go up! Surely there must be a mistake somewhere? Or can it be that the economists' conclusion only applies to the moment at which the demand increases, while after production has increased to match the price is bound to go down again? This chapter sets out to show, by studying how the factors of production are combined, just how much there is in the mass production argument, and what are those limits to its validity which casual writers on economic subjects so often ignore.

This abuse of the mass production argument is a good instance of the difference between the outlook of the individual business man—who sees things from his own standpoint only—and that of the economist, who has to take a wider view. It is worth examining this matter in some detail, for it goes down, in the last analysis, into one of the biggest problems of economics.

The Individual Firm. The case of the individual firm is the simplest. It is common knowledge (and indeed common sense) that it is wasteful to keep expensive machinery and buildings standing idle. If the manufacturer has borrowed money to buy them (and he probably has) then he is paying interest on the loan and getting nothing from the machines. If he has not, then he is nevertheless losing the interest which his capital might have earned if invested elsewhere. These expenses—that is, his *overhead charges*—go on just the same whether he is producing or not, and in the long run, unless he is to lose on his business, the sale of the products has got to bring in enough to cover them, as well as the price of fuel, wages, packing and so on. (We shall see later on that there are very important temporary exceptions, but they can be left aside for the moment).

We can imagine a manufacturer deciding that in order to take as much advantage of his machinery as possible he will take on extra workers and run the factory continuously. Up to the point where every machine is fully occupied it will pay him to increase his staff: there is, in technical language, *an increasing return to labour*. Beyond that point an extra man or so may come in useful, for instance, by doing odd jobs which allow the others to give full attention to their machines; but very soon a further increase would cease to be worth while; *diminishing returns to labour* would set in. One can look in the same way at any other of the factors of production which vary directly with the amount produced—whose price is part of *prime cost*. Fuel, lubricants, lighting, and so on, are all of this kind. It might pay our manufacturer to spend more on lighting, up to a certain point; beyond that point further spending would be wasteful. Returns

would increase, reach a maximum, then diminish.

The reason why each individual business man sees a large output making for cheap production over the whole industry is that the largest output *his* factory can manage makes for the cheapest production of *his* goods. He has spent so much on machinery and he cannot unspend it. He has got to make the best of it. And we have seen that since overhead has got to be paid for anyway, the best he can do is to turn out as many goods from each machine as he can. To him, maximum return per machine means minimum cost (to the whole enterprise) of each article turned out.

Now what has the economist got to say to this argument? How is he to explain the *permanent* rise in prices following expansion of production of some goods? The economists' reply is that there are really three separate questions to be answered and the manufacturer has only answered one of them. To the question "What will happen if I increase output with my present machinery?" he has answered "I shall make a bigger profit, always provided that I can find a market for my goods" and he is quite right. But he has not answered the question "What will happen if I increase the size of my factory?" nor the question "What will happen if more factories have to be built to turn out these particular goods?"

What Happens when a Factory is Enlarged? As for the first of these unanswered questions, the economist will not be able to answer it off-hand; it all depends on particular circumstances—that is, it still concerns the individual firm and not the industry in general.

Let us say that our manufacturer has discovered just

what proportions of factors are most profitable to him—so many workers per machine, so much floor space per worker, so much advertising, and so on. He is getting as much from each of them as he can. There remains the question: Is he getting as much out of *himself* as he can? Will it pay him to expand his whole concern—keeping the other proportions just right? Managerial ability is a factor of production like any other. What is the best proportion of that? Since it is aggregate profit that he is interested in, he will want to go on expanding until one of two things happens; until he begins to feel that he wants to spend more of his time golfing, motoring, reading and so on, and less at work, or until he finds that he really cannot manage a larger concern. When that happens returns to the whole concern have begun to diminish.

The manufacturer does not look at it that way. He simply says it "would not pay" him to expand his concern. If he were pressed to use the language of economics, he would say that the establishment worked under conditions of increasing cost. But that is not the same thing as to say that the *whole industry* works under conditions of increasing cost. It does not mean, in fact, that the answer to our third question is that if the whole industry is expanded by more factories being built, the cost of production of the goods it turns out will go up and prices will rise.

What Happens when an Industry Expands? On the contrary, as an industry expands it may find a great many economies possible that were not possible when it began. We shall see later in some detail how industry is localized, how a trained labour force grows up, how banking and

marketing facilities, specially adapted transport and subsidiary industries are concentrated in the spot where a group of establishments engaged in some particular trade has developed. Naturally, the larger the group, the further this process will go, and the greater will be the resulting economies. This process is independent of that by which, as we have seen, an individual firm expands to whatever size represents the best proportions of all its factors of production—including the manager.

It is a matter of aggregate size, not of proportions. But there is another side to this question of growth, and it is the other side which accounts for some things being made permanently dearer when the demand for them increases.

How Increasing Costs Arise. The tendency to increased cost arises when an expanding industry has to draw on second-rate materials, plant and workers, because the supply of the best is strictly limited. The mining industry is a case in point. As it expands, so it has to go deeper for its coal or ores, increasing both the first cost of boring and the ordinary running costs of pumping, ventilating, winding, etc. And this is true not only of any given individual pit but of every new pit that comes into existence. The mining prospector has to go further and further afield as the best sites are taken up, and very likely to satisfy himself with an inferior coal or a poorer ore which requires more treatment before it can be marketed, increasing the price of the final product.

Now every industry, not only coal mining and farming, uses a varying proportion of these *factors of inelastic supply*, as they are called: factors, that is, whose supply

can only be increased comparatively slowly and at greater expense or possibly not at all. Therefore in every industry the benefits of expansion, both to the individual firm and to the whole localized group are checked and counteracted to some extent by this increasing cost of these factors. It all depends how large a part they play. In farming, land—whose supply is the most inelastic of all—plays an overwhelmingly large part; and in coal mining there are only a certain number of seams which are easy to work. It is not so easy to say how the forces balance in manufacture. One can only say, for instance, that as an industry grows it is likely to have to pay more for its land, its fuel, and possibly its raw material, since it is either using fresh supplies (which presumably will be drawn from inferior sources, the best having been taken first) or taking them from other industries (which it can only have done by offering a better price).

And according to whether it is likely in the course of expansion to draw on factors of inelastic supply, such as these, or on factors of elastic supply, such as plant which can be quickly and cheaply manufactured, or a labour force which is mobile and adaptable, it is likely to find its costs rising or falling in the process.

This side of the question is right outside the point of view of the individual business man. The fact that a single small firm decides to expand does not noticeably affect the prices of the materials it uses. It is the economist who has to look at the whole situation and see what happens when a number of such firms change their output; he takes the wider view which the business man cannot see because he is too busy looking at his own particular job.

Inventions. All this argument assumes a state of things—as readers will notice—different from real life. For nothing has been said about inventions, and as a matter of fact, of course, inventions are constantly being made and changing the technique of industry as they come into use. But then the purpose of the argument is to explain how certain forces would show themselves all the time, if they were not counteracted, and do show themselves whenever they get a chance.

We have seen that at any given state of the technique of an industry—that is, ruling out new inventions—there is a best proportion in which the factors of production can be combined and a best size for every firm (depending on the ability of the man managing it). Now new inventions alter both the best size and the best proportion. Generally they make the best size larger and the best proportions include more capital. But with the coming of a new invention, there is still a best size and a best proportion to go beyond which would be unprofitable. There was a best size for an iron foundry when smelting was done by charcoal and the furnace draught was provided by hand bellows; that best size is quite irrelevant now that the Industrial Revolution has altered the technique of the iron industry, but another has taken its place. No invention *abolishes* all limits of size, still less all limits of proportion.

Technical Progress and Inferior Sources. There are thus (apart from the immediate increase in price) two sets of influences at work when the demand for any product grows. The industry producing it is likely to have to draw on inferior sources for its factors of production, or to pay more for them: and this raises prices. On the

other hand, there is a stimulus to people's inventiveness, more work is done by engineers and chemists, and the result may be such improvements in technique as to cancel completely the effect of these extra costs. Just now and for the last 150 years, so many inventions and discoveries have constantly been made that the general tendency of costs of production is steadily downwards in spite of the fact that the best mines are being exhausted, the best land all occupied. For instance, England now draws her wheat supplies not only from the fat arable lands of her own counties, but from the north of Canada, thousands of miles away and far less climatically favourable; but improvements in agricultural technique (winter wheat, combined harvesters) and in transport (trans-continental railways and trans-oceanic steamers) have more than neutralized this disadvantage.

SUMMARY. *For every individual factory, every business enterprise, and every industry, there is a certain size which is economically the best, given a certain state of demand and of technique. Increased production spreads overhead costs more widely, but may increase other costs where it is necessary to draw on factors of inelastic supply. There is also always a certain combination of the factors of production which gets the best out of each. Technical progress alters these limits but does not abolish them.*

CHAPTER VII

THE ORGANIZATION OF INDUSTRY

IN the light of the conclusions which we reached in the last chapter we can examine the actual structure of industry as we see it to-day, and understand why some firms are so much bigger than others, why engineering and steelworking are organised in a different way from, say, cotton manufacturing, why some enterprises are run by single-handed entrepreneurs and others as joint-stock companies, and why it has been found necessary to impose more State control on some forms of enterprise than on others. But before we start accounting for these differences we had better see more accurately what they consist in. What are, then, the main sorts of industrial organization?

The One-Man Business. In the first place, simplest of all, there is the one-man business which we find in small towns and villages, and which was prevalent everywhere before the Industrial Revolution. The small shopkeeper, the village carpenter or blacksmith, the small peasant-farmer, all provide their own capital, do their own work, and market their own produce. This sort of business is the simplest of all; the functions of wage-earner, capitalist and entrepreneur are all rolled together.

The Partnership and Private Firm. Hardly less simple is the old-fashioned partnership or small private firm, which, although it employs wage-earners instead of doing its own manual labour, and so can expand to a much greater size than the primitive one-man concern, still combines the capitalist and entrepreneur functions. Partnerships and private firms are typical of the eighteenth century and early nineteenth century just as the one-man business was typical of the previous era.

The Joint-Stock Company. But the kind of industrial organization which is most typical of our own day (though it began, over a limited field, as early as the sixteenth and seventeenth centuries) is the joint-stock company. The characteristic of the joint-stock company is that the functions of capital-providing and of enterprise are more or less completely separated. The shareholders, in return for interest payments, entrust their capital to the directors of the company, and, apart from annual meetings when they nominally express their opinions and voice their criticism, forego all control of it. This form of organization is only made attractive by the provisions of the Limited Liability Act of 1862, which, in the event of a company's failure, ensures that the shareholders shall only be responsible for its debts up to the amount of their shares and not beyond. Of course this arrangement enormously lessened the risk incurred in investing and so was a great encouragement to saving and enterprise (*See Appendix II*).

The Large Industrial Combine. Finally, during the last fifty or sixty years, there has grown up a form of organization still larger and more complex than the ordinary joint-stock companies, and formed by amalgamations or

agreements or other connections between them. The exact form varies from one country to another and one industry to another; we find in America trusts, in Germany cartels, in England "shipping conferences" and amalgamations, and in all both "horizontal integration" and "vertical integration"—that is, first, combinations between different entrepreneurs who are doing the same thing (such as different shipowners) and, secondly, combinations of entrepreneurs who handle the same material at different stages (such as mineowners, ironfounders, steelworkers and engineers). We will now see how and why these organizations arise.

Why Organization Differs. The size of a business is limited in the first place by the size of the market which it serves. That, of course, accounts for the small size of the "one-man businesses" in villages and small towns; the market is small and so the business cannot grow. Next, it is limited by the ability and energy of the entrepreneur at its head; it cannot profitably expand beyond the size which he can effectively control. But apart from these obvious considerations, the size depends—as we said in the last chapter—mainly on technical influences. As we mentioned then, the appropriate size for an iron and steel manufacturer's business is quite different when he is working with Bessemer converters from what it was when his ancestors were working with a charcoal furnace. What we are looking for now is the concrete technical facts governing the size of enterprises in different industries—not in such detail as would interest an engineer, but broadly, in order to see how the influences we studied in the last chapter work out in practice. Two sorts of unit have to be considered; the *unit of production*—factory,

farm, shipyard; and the *unit of control*—partnership, private company, or cartel. The causes governing the size of the one have an influence also on the size and structure of the other; but the two questions are really separate. One is technical, the other commercial. We will look at both of them, taking first, as an example, the iron and steel industry.

Iron and Steel. The size of the typical unit of production, in iron and steel, is influenced in the first place by the nature of the materials used. They are heavy and bulky; therefore the less they have to be moved about the better, and the more powerful the machinery used for handling them the better. Both these influences make for large-scale production; efficiency increases with size. Then there is the question of heat. If metal can go straight from one process to another without being allowed to cool down in the meanwhile, there is an obvious economy in fuel. This makes for larger sized units of control, since blast-furnaces and rolling-mills can most easily be put close together if they are owned by the same people; and it also makes for heavy capitalisation (with the same effect) since elaborate and powerful machinery is needed to deal with loads of red-hot metal.

Flexibility of Production. These same technical considerations make for large-scale control in another way. There are various reasons, connected with engineering difficulties, against building blast-furnaces larger than a certain size; up to that size, the bigger the better. That means that the output of one blast furnace is likely to be much the same as that of another; it cannot be varied without loss. Now demand, on the other hand does vary; and unless the manufacturer can somehow keep his

output flexible to match, he is likely on the one hand to lose profitable orders in booms, and on the other to pile up unprofitable stocks in slumps. Putting out a blast furnace and restarting it is a very heavy expense, so flexibility cannot be attained by sometimes using, and sometimes not using, a single blast furnace. The only possible way of keeping output smoothly responsive to demand is for one concern to own a number of blast furnaces, using a greater or less number of them according to demand, and so spreading the expense of stopping and starting over a large output; in other words, the unit of control must be large. Again, rolling-mills are always heavily capitalized concerns, because the rollers are enormously expensive and cannot be adapted to any different purpose; for flexibility of output there must be several sets of these, and thus there is further reason for a large unit of control.

Rationalization. Nor is this all. The characteristic of all heavily capitalized industries is that if they are not to make a loss, owing to heavy interest charges, they must run at or near capacity. We saw that in the last chapter. Capacity running is only possible if there is a steady flow of orders; and as we said earlier, orders do not come in at all steadily. But they come in a great deal more steadily over the industry as a whole than they do to any particular firm; therefore the advance planning of production is much easier for an organization extending over the whole industry, or even over a large part of it, than it is for the firms considered individually. A central organization can calculate that, taking swings and roundabouts together, so much is likely to be wanted in the course of the next six months or year; it can then

divide the production up among the various firms in the industry, having due regard to any specialized advantages of equipment ; close down some works and run others to capacity, choosing the most suitable and efficient ; and in general run the industry in the way best suited to its technique and to the state of demand. That is "rationalization."

Integration and Efficiency. Thus, all along the line, we find forces tending to concentrate the production of iron and steel in a few hands. Concentration near the coal mines is necessary because the materials are so heavy ; the establishments in which the different processes are carried out must be as near together as possible, to save transport and heat, technical conditions dictate large-scale plant, and commercial conditions, on top of that, require that to each unit of control should correspond several units of production. The nature of the material handled, the technique of its manufacture, and the conditions of demand all tend to the same end ; that is, as much integration as possible, both vertical and horizontal. Thus it is that the same companies own coal mines, iron mines, blast furnaces, rolling mills, engineering sheds and shipyards ; and that, moreover, these companies are constantly being amalgamated or "cartelized" among themselves. For the small private firm there is no room at all.

This process of amalgamation and rationalization has not, at the time of writing, gone anything like so far in England as it has in America and Europe, where cartels are not merely national but international in scope. This is partly because the British iron and coal fields are less concentrated than the European ones, partly because

British business men have a perhaps excessive preference for independence, and partly, it is to be feared, because they are content to trust to luck and "muddle through" their difficulties without setting their house in order as they should. But one does not need to look very far ahead in order to see the great economic forces of which we have spoken bringing about a far more drastic integration of the British iron and steel industries than has ever taken place hitherto.

Railways and Shipping. When we turn to railways and to shipping we find some of the same forces at work as in the iron and steel industry. Once again there is heavy capitalization, and an even greater percentage of the costs are overhead costs. There are not quite the same technical reasons for large-scale units of production (though the cargo-carrying, and therefore money-earning capacity of a liner increases faster than her total tonnage so that big ships, if they can be fully loaded, are more profitable than little ones) but the reasons for large-scale control are even more cogent.

To take the merely technical reasons first, as they appear on the railways: the first necessities for a railway system are that the same gauge should be used everywhere, that different lines should have some sort of common junctions, that signals should be uniform, and that goods and passengers should be able to pass all over it with a minimum of re-booking and changing. Even for these simple requirements some sort of unified control is needed; that may mean no more than occasional working agreements between independent companies; but in practice collaboration has to be fairly continuous in order that time tables may harmonize, junctions be rationally

planned, and overlapping be prevented. In the long run, these considerations always point to very large-scale railway units.

But there are other reasons more cogent than these; they arise out of a danger which can be summed up in two words "cut-throat competition." In the long run, on railways as elsewhere, revenues have got to cover both overhead and prime costs; but in the short run, any revenue that covers prime costs and goes some way to cover overhead is better than stopping work altogether, since interest charges on the heavy capital go on in any case. It is better to carry traffic at a loss than to incur a still heavier loss by not carrying it at all. The result is that where two lines are in competition, serving more or less the same areas or joining two important points by different routes, competition of a particularly furious and wasteful kind is, in the absence of any agreement, almost bound to develop. Railroad A, in order to attract more traffic, cuts its rates; Railroad B, faced in consequence with a falling demand, does likewise, preferring a small loss to the prospect of permanent decline. Railroad A, quite possibly very willing to drive its competitor into bankruptcy and get a monopoly, retaliates, and the whole process starts again, with no limit to price cutting except that of prime costs, far below the truly economic rate. If Railroad A is much stronger financially than Railroad B, or vice versa, the end of the struggle may be that the weaker party goes bankrupt and its line is bought by the stronger or allowed to go derelict—a perfectly senseless social waste. But even without the fight being pushed to the bitter end, cut-throat competition is a thoroughly wasteful and pernicious business. Rates that vary from day to day are a nuisance to

customers, who can have no clear idea of what their transport costs are going to be; and if the artificially low rates continue for long they lead to a distribution of new enterprises, placed to take advantage of them, which bears no relation to that which is economically best under normal conditions. It is in America that the worst examples of this sort of thing have been found in the past, but the railways of all countries have had to conclude agreements among themselves in order to avoid this form of economic suicide.

Agreements and Combination. Once an agreement is reached it is likely to lead to something more formal. Each railway wants to keep an eye on what the other is doing; close and constant co-operation is needed in order to keep up a common policy as to rates, classifications, and so on. Joined with the technical reasons which were touched on earlier, these commercial reasons make strongly for large amalgamations of railway companies.

Much the same process is apt to take place in shipping. Freight-cutting "wars" arise in a fatally easy way unless some agreement to the contrary can be reached; traffic carried at a figure which does little more than cover prime costs is better in the short run than no traffic at all and the loss of fixed capital, but is ruinous in the long run, while a wildly varying schedule of freight rates is as unhealthy for customers on sea as on land. So we see "conference" agreements arising, whereby groups of shipowners bind themselves not to undercut one another and protect themselves against outside competition by "deferred rebates" and other devices (deferred rebates, as their name indicates, are reductions allowed *after a*

lapse of time to customers who have not made use, during that time, of non-conference ships).

General Conclusion. This study of conditions in railways and shipping enables us to make an important generalization. That is, that *when overhead costs are high in relation to prime costs, the danger of cut-throat competition is particularly likely to lead to agreements between different firms, very probably followed by a closer association; it is when the ratio of overhead to prime costs is highest that monopoly is most likely.*

Types of Combine. These close associations are of many kinds. They vary a good deal from country to country, because different governments, fearing the undoubted power of these combinations to squeeze the public, have taken more or less drastic steps to prevent their formation. The actual unified control may be secured by a "holding company" being formed to take over the shares of the separate concerns, or by "interlocking directorates"—each firm concerned having some representatives on the boards of all the others—or by downright amalgamations, or by cartels—loose associations obeying agreed rules as to conditions and prices, and acting in more or less close co-operation as to output. That depends mainly on the legal system; but their general aim is the same everywhere: to keep competition within limits, regulate selling, and gain as many as possible of the advantages of large-scale production and control.

These advantages are many. A large-scale concern can buy cheaply, because it buys in large quantities; it can borrow cheaply for the same reason; it can afford research and can combine patents and secret devices; it can make use of by-products, because it produces them

in sufficient quantities to be worth while ; it can cut down selling expenses, such as competitive advertising ; and last but not least, it can make full use of the very finest business ability. There is a limit to size in any firm or organization ; but these advantages and the technical advantages we discussed earlier are effective up to that limit.

Combines and the Public. It will be seen that a serious question of public welfare arises out of the growth of these combinations. For the advantages of combination are, as we saw, of two kinds, technical and administrative, and commercial or competitive. The first is a gain all round, to the public as well as to the firms concerned ; the other may well be a public loss. It is all to the good from everyone's point of view that railway companies should be able, through amalgamation or otherwise, to co-ordinate the services they offer, keep some continuity of policy, and generally stabilize conditions of transport. But it is all to the bad if they use their monopoly position (as they did in fact use it during the nineteenth century) to squash other forms of transport, like the canals, out of existence ; or if they " charge what the traffic will bear " and so appropriate a disproportionate share of the profits of the producers of some of the goods they carry. Similarly it is all to the good that steel-producing concerns should expand to the size which is technically best and reach agreements making for continuity and efficiency, but not that they should then restrict the production of iron and steel for the sake of keeping prices high, and so cripple the rest of industry.

This social problem was recognised quite early in the nineteenth century, but nineteenth century economists

and legislators looked at things rather differently from us. They did not foresee that the new industrial technique was leading to larger and larger productive units, and that the competitive theory on which their economics and political ideas were alike based would in the course of time apply to a smaller and smaller part of the industrial field. So their reaction to the idea of large industrial units was merely to do as much as possible to suppress them. If two railway lines, for instance, were competing, they encouraged them to compete, and Parliament forbade them by law to amalgamate. They did not tackle the problem; they simply tried to prevent it arising at all.

Large Scale Combines Now Inevitable. Nowadays it is recognised that in many branches of industry any form of organization which would maintain free competition would have to consist of units too small to be technically efficient. The nineteenth century way of merely shelving the question is no longer possible; the public interest must be safeguarded some other way. And so we get the growth of public control of industry, of all degrees from the mere fixing of maximum or minimum prices to full nationalization or State ownership. (We cannot discuss here the political and ethical reasons for which Socialists wish to increase this control; we are dealing only with the economic side of the question). The railways with their regulated rates are under one degree of public control; the electricity distributing industry with its national "grid" under another; the Metropolitan Water Board, the Port of London Authority, and similar public bodies, represent yet another degree; and so on till we come to the postal telegraph and telephone services, operated as a Government department.*

* See Appendix II.

Disadvantages of Centralization. There are disadvantages in this centralizing process, as, indeed, in any large-size organization. When those taking day-to-day decisions are responsible not to themselves but to a distant central authority, enterprise and adaptability are likely to suffer from the need of making long explanations. Moreover, if a small concern goes wrong the social loss is much smaller than in the case of a large one. An absolutely centralized and unified industry has all its eggs in one basket. This may also lessen enterprise and the spirit of experiment; the leaders of such an industry may become disinclined to take risks, and stagnation may set in. These disadvantages have to be balanced against the advantages we discussed earlier; indeed, we may say that one of the biggest practical problems of economics to-day is to hit on some device which keeps the flexibility and experimental value of the competitive organisation, made up of small firms, and yet attains the technical and commercial advantages of the new organisation in large non-competing units, whether or not under public control.

SUMMARY. *The chief types of business organization are the one-man enterprise, the partnership and small private firm, the joint stock company, and the large industrial combine. Technical and commercial reasons determine which is best in given circumstances. The unit of control and the unit of production need not be the same. Where technique demands a great deal of heavy fixed capital, production is bound to get into the hands of a few large firms. Either cut-throat competition or monopolistic agreements may then follow. Some public control is necessary in these cases to prevent waste or exploitation.*

CHAPTER VIII

MONEY AND CREDIT

HAVING studied the primary factors of production and the laws governing their combination we are now going on to discuss the concrete framework of institutions which makes use of them. We began by examining the laws of supply and demand; we went on to discuss the raw material on which they work; and now we shall see along what channels they exert their power. What is the mechanism which brings them together? Into what forms, in the modern economic community, do the laws of supply and demand combine these factors? It is to answer these questions that we turn to the study of institutions; and the first, greatest and most fundamentally important of these is money and credit. Without money and credit the economic system could never have emerged at all. Why?

Money the Most Important Economic Institution. Although there are very many monetary problems which fall right outside the scope of a book like this, there are some which must be treated for the sake of a clear understanding of the problems of production. For hardly any error in practical economic matters is more widespread than that of either over-estimating the power of money and credit or of thinking them entirely secondary. A bad

monetary and credit system can ruin the most technically perfect industry ; but no monetary and credit system, however ingenious, can permanently make up for technical inefficiency. Therefore this subject is one which must be studied, even in the most elementary survey of economics, in rather more detail than is given to, say, the organization of Trade Unions or industrial combines. It must, in fact, get a chapter to itself.

Means of Exchange. The importance of money resides, in the first place, in its function as a *means of exchange*. The service it renders in this capacity is so obvious that one need not dwell on it for long. It would be terribly inconvenient for a hungry bootmaker to wander round his village looking for someone who wanted boots and had bread and cheese which he did not want ; and altogether impossible for a man who was not turning out finished boots but only oiling a machine which made bootlace tags. Unless people know that they can, without too much trouble, exchange the things they have made for other things of which they stand in greater need, they will not specialize at all. So we see that the division of labour itself is in fact dependent on the existence of money.

A Unit of Account. Quite as important, though a little less obvious, is the service which money renders as a *unit of account*. Until we have money measures in which to reckon, we have no way of expressing those individual scales of preference in accordance with which we buy and sell, and hence no way of expressing value. We saw in the first chapter how incapable we are of comparing different kinds of wealth except by means of money values. Without a monetary system it would be impossible for any individual to tell, except very roughly, whether his wealth

was increasing or diminishing. It would be impossible for a trader to put a price on any article until he had seen the exact articles offered in exchange. This is an inconvenience of barter nearly as great as the difficulty of our imaginary bootmaker in finding a barefoot man with a superfluous stock of bread and cheese. Nor could anyone tell in advance how much any piece of work was going to cost him; everything would depend on individual bargaining, and the organized planning on which modern industry depends would be impossible.

A Store of Value. Another function of money is to give general spending power. The phrase needs a little explaining; it is a short way of saying that money is more convenient to accumulate and hold than goods, because goods take up room, and deteriorate, and their value varies, and one cannot be sure of finding a buyer at the right moment. The spending power represented by the cash in one's pocket and by current accounts at the bank gives two things—freedom of choice and security in emergencies. Threepence may represent, for instance, a bus ride, or a shorter bus ride and a paper, or a cup of coffee, or a bag of bullseyes; so long as the threepence is there the choice is there. A mere right to so many—let us say—bullseyes, without the privilege of changing one's mind, may turn out to be less valuable than threepence if it suddenly comes on to rain and a bus home therefore becomes more desirable; even though one may enthusiastically pay threepence for the bullseyes in other circumstances.

Money, therefore, is what gives both elasticity and continuity to the whole economic process. It enables people to plan ahead; if necessary, to modify their plans;

and, moreover, to meet unforeseen changes of outside circumstances without suffering for it. So long as a monetary system is in good working order, a pound will buy as much next week as it buys to-day; so that a pound note represents a convenient way of storing up any assortment of goods to that value.

Money a Claim on Commodities. But one important thing must always be kept in mind when we are studying money; it is, primarily, *not a commodity but a claim on commodities*. Professor Cannan has compared it to a cloak-room ticket; one cannot wrap oneself up in a cloak-room ticket, one can only exchange it for one's coat. If the supply of money increases and the supply of goods does not, the world is no better off than it was—unless there was previously an actual shortage of coins, so that people were paying bus fares with postage stamps, as they used to do in Paris just after the war. An increase in money without an increase in the production of goods simply means that each item of money corresponds to a lesser quantity of goods than it did before—in other words, the goods become more expensive, and we say that the price level rises.

Prices and Inflation. A rise in the price level is something different from a rise in one particular price or set of prices. It is practically the same thing as the more familiar “rise in the cost of living”; and the simplest way to explain it is to show how changes in the cost of living are measured.

Individual prices are always shifting, but so long as they shift in different directions the amount one has to spend on a month's living remains on balance about the same. Nor would there be any great alteration in most people's

monthly budgets if the price of pepper and of bootlaces were to double, because so little is spent on pepper and bootlaces compared with other things. But if there is a change in the price of things of which everyone needs a large supply, like house rent and coal, that does make a difference to the cost of living. Therefore, when the official statisticians of the Ministry of Labour are compiling their cost of living index, or average change in prices, they have to distinguish in their averaging between things like pepper and things like coal. This they do by a process called weighting. If they estimate that, in the "basic year," that is, the year whose prices are to serve as a basis for comparison, there was six times as much spent on coal as on, say, boots, they count the change in the price of coal six times in making up the average, and the change in the price of boots only once.

		Rise in prices.		"Weight."	
Coal	1	6	6
Boots	10	1	10
Crude Total		11		Weighted total 16	
Crude average		$5\frac{1}{2}$		Weighted average $2\frac{2}{7}$	

The "crude" index number, reached without the weights, would show a rise of $5\frac{1}{2}$; whereas the "weighted" index number gives a rise of only $2\frac{2}{7}$, because most of the rise has been in the comparatively unimportant item, boots.

Thus, when an index number rises or falls, that means that the prices of staple commodities are rising or falling, and that changes in the opposite direction, which may have been taking place at the same time, have been either too small by comparison to matter, or have affected the prices of comparatively unimportant things.

It is these main movements, shown and measured by the index numbers of which the "cost of living" index is one, that we call "movements in the price level." So long as they do not go very far in either direction, or do not happen too quickly, they are not a very serious matter ; but sometimes they zig-zag up and down in a way which seriously disturbs the economic system—as we shall see.

The Quantity Theory. The dependence of the price level on the amount of money in circulation is known as the Quantity Theory of monetary value. But the situation is not quite as simple as the above description makes out ; because a given sum of money may do more or less work in a given time. If a ten-shilling note after changing hands once is locked up in a safe for a month, buying nothing, then to all intents and purposes it has no further effect on the price level. But if it changes hands once a day, all through that time, then its effect is multiplied something like thirty-fold. If the circulation of money is speeded up, less is needed to allow the same number of goods to change hands at a given price ; if it is slowed down, more is needed. One can compare ten pound notes to ten omnibuses on a given route, over which a given number of passengers have to be carried every hour. If the buses can only travel at ten miles an hour, more will be needed than if they can travel at thirty. If they are speeded up, each 'bus comes back sooner to the beginning of the route and is ready to do the work for which previously an extra bus would have been wanted. Similarly, if each pound note goes through twenty transactions a day, fewer are needed than if each changed hands only twice. So the price level, with a given number of transactions, depends not only on the quantity of money but

also on this "velocity of circulation," as it is called. And the velocity of circulation depends in turn on people's habits; on how much they like to carry in their pockets—the more, the slower—and on how much they use cheques and bills of exchange, about which we shall hear later—the more, the faster; and on the activity of trade generally, so that one cannot simply say "If the quantity of money doubles, the price level will double too." One has to take these other things into account, including the fact that if the quantity of money increases very fast, and people think its value will fall, they start exchanging it for durable goods as fast as possible, and so raise the velocity of circulation and increase the effect of the greater quantity. The Quantity Theory is not a very difficult idea to grasp, but it is very difficult indeed to make it into an accurate formula to apply to any particular situation. However, even if it does not give an exact arithmetical value to the connections between quantity, velocity, and price level, it does show what these connections are; and that is an extremely valuable service.

This brings us to the most important quality of a good monetary system, as apart from a good standard commodity. *It must keep the general level reasonably steady.* During and just after the war, many governments printed vast quantities of paper money, and prices accordingly shot up like rockets. Then they "went back to gold"—the meaning of the phrase will be clear later on—which meant cutting down the currency; and prices limped painfully down again. Both the shooting up and the crumpling down, the "inflation" and the "deflation" were exceedingly bad for the economic health of the countries concerned; in what way, we shall now see.

The trouble began by Governments that had spent a

great deal on armies and munitions, and had not raised enough money by taxation or loan to pay their bills, deciding that the easiest way out of their difficulties was to print the money they needed ; which would cost very little and be much less unpopular than taxes. So they did, and millions of new notes got into circulation without any corresponding increase in available goods. The new money went first of all into the pockets of army contractors, munition workers, soldiers, Civil Servants and so on ; thence to the pockets of the tradesmen from whom they bought goods ; and thence spread over the whole country. *And at every stage it raised prices*—because no more goods were in existence than before. But it was very profitable for the Government, at first, because they always had the first chance of getting in with their new purchasing power before all the prices had gone up.

The Dangers of a Rising Price-Level. Now a rapidly rising price-level is a very insidious thing. It is highly encouraging to business men, because it means that their stocks are increasing in value automatically, while their fixed charges, like rent and debentures, are not growing to match ; and there is always a certain lag, by which they profit, between the rise in the wholesale prices which they receive and the time when the Trade Unions begin to feel the pinch and ask for a rise in wages. It is a little unpleasant for the workers, but not very, because at such times the optimistic business man is more likely to agree to a rise in wages than before the inflation started. It is exceedingly unpleasant for the debenture holders and the landlords, the return on whose property is fixed by contract, and for the professional people—lawyers, doctors, professors and so on—whose incomes are fixed by custom.

And it affects the Government in a double-edged way ; for although it gains in the first instance it loses too in the long run, because its income from taxation begins to dwindle away in terms of goods ; and once the value of a currency begins to collapse really seriously, taxes can never be scaled up fast enough to be effective. So that what inflation really does is to take money from everyone else's pockets to put it in those of business men ; and the really insidious thing about it is that even they are not as rich as they think they are. In terms of goods, this new money income of theirs is indeed bigger than the old, but not so much bigger as it looks. Their fine profits are paper profits. This means that inflation not only robs everyone but the business man ; it leads the business man himself to spend more than he really should, and so cuts into savings.

Moreover, after a time it no longer pays even the Government to go on printing notes. People begin to see what is up, and when they realize that the note they get out of the bank to-day may be worth only half as much to-morrow we begin to see " flights from the franc " or " from the mark," or " from the rouble " as the case may be. The foreign exchanges collapse, trade is paralysed, and to the accompaniment of a general panic the erring government has to get to work and " stabilize the currency."

Deflation. If that involves (as it always does when inflation has really got to the end of its tether) a drastic cutting down of the amount of currency in circulation, a whole new series of evils is started. This time it is the landlord and debenture holder, the professional man and the owner of Government securities, who benefit ; while

the business man sees the money value of his stocks falling from day to day, and people refuse to buy or to start new businesses because they think prices are going to fall still further, so that concerns work short time and men are sacked right and left; unemployment figures rise, profits fall, and the country enters on a more or less severe period of depression. It is indisputable that much of the post-war depression in England, for instance, is due to a too drastic deflation after the expansion of the currency at the end of the war.

What is the Best Sort of Money? Given the functions and importance of money, what sort of money is best? Nowadays, in answering this question, we think less about actual coins and more about the system of which they form part. But the older economists dwelt more on the actual physical qualities necessary in a standard commodity serving as a means of exchange, and if we are to understand the arguments that went on at the time when classical monetary theory was being thrashed out we must take some notice of them.

In order to be a satisfactory means of exchange, the standard commodity had to have certain qualities. It had to be *readily portable*. Hay would never be suitable for currency, because one would have to carry a barrow-load about in order to buy a few pocket handkerchiefs. It had to be *universally acceptable*; live white mice, though fairly portable, would not be suitable, because so few people want to keep white mice. It had to be *durable*; bread though universally acceptable, would not do, because it goes stale and mouldy. It had to be *divisible*, otherwise one could not get pieces the same size; precious stones would not do, although they fulfil all the other

requirements because they cannot be divided without heavy loss. Finally, it had to be *uniform*; otherwise one could not be sure that any one piece was worth as much as any other piece of the same weight.

Now once all these necessities are recognised it becomes fairly clear why the precious metals, and no other substances, grew to be generally used for money. They combine all the necessary qualities. They are portable, acceptable, durable, divisible and uniform; at least, though not uniform in the shape of ore, they can easily be made so. Once coined, their value can be recognised at a glance, so that they do not need to be weighed, only counted. Once any community has reached a certain standard of economic civilization it inevitably turns to coined gold and silver as a means of exchange; and this coined gold and silver must, moreover, be maintained at a certain standard of weight on account of the operation of "Gresham's Law." Gresham's Law (so called after Sir Thomas Gresham, a sixteenth century financier) consists of the five melancholy words "Bad money drives out good." This is a short way of stating the fact that when full-weight and light-weight coins of the same face value are circulating together it will pay people to melt down the full-weight coins, in order to sell the metal, before it pays them to melt down the light-weight ones; so that after the currency has got worn down beyond a certain point the only thing to do is to call the whole lot in at the State's expense for re-minting, since so long as the over-valued lightweight coins are circulating any new issues will simply be melted down.

Monetary Systems. It is not enough to have found a good material form for the standard means of exchange.

In order to provide a satisfactory unit of account, a community must have not only money but a *monetary system*, in which different coins, bearing different values, bear a fixed arithmetical relation to one another. Thus in England there are twelve pennies to the shilling and twenty shillings to the pound, and there are also coins of intermediate value—such as sixpences, florins and half-crowns. The reason is obvious; a single coin small enough to serve for buying a daily paper or a pound of potatoes would be hopelessly inconvenient for paying house rent or the price of a car; and vice versa. Side by side with the standard money, therefore, there has always been a coinage of less valuable metal which is used for small change. This is called *token coinage*, because it contains much less than its face value of metal; a shilling, that is to say, contains only a few penny-worth of silver, and a penny an even smaller proportionate value of copper. They are legal tender, as gold and banknotes are, but only up to a limited amount—one shilling for copper, two pounds for silver. It used to be a serious question how to keep the various currency metals at par, exchanging against one another at a constant rate, so that no one should ever be willing to give 21 silver shillings in order to get one golden sovereign, or the holder of a sovereign be content to exchange it for 19 silver shillings. For if silver, in unmixed form, varied in value in terms of gold (and it does so vary a great deal) what was to stop it varying when coined? The problem no longer exists now, simply because silver coins contain so little silver that it would pay nobody to melt them down.

Paper Currency. Now any reader who is at all wide-awake must have felt, on reading the above paragraphs,

that something was wrong. What about paper? We do not use gold coins; hardly any countries do. Why talk as if they were a natural and inevitable currency for any civilized state? The answer is that monetary theory was worked out at a time when gold coins were in general circulation, and that gold, whether coined or uncoined, is still in normal times the governing part of our currency. The amount of money in England still depends on the amount of gold in England, although that gold is all hidden away at the Bank.* How this state of affairs came about is a long story, which can only be understood after a study of banks and credit.

The Beginnings of Banking. Banks began by being merely places of safe keeping for valuables, especially coins. It is generally supposed that the first banks were kept by goldsmiths, who, since they constantly handled valuable materials, had to be provided with strong-boxes and vaults. Such primitive banks as these would not pay interest on the money that was put into their keeping; they would, on the contrary, charge a fee for their services. But after a while anybody making a practice of keeping in safety money belonging to a number of different clients would find that it was a most unusual thing for more than a certain portion of this money to be asked for at the same time. One client might withdraw a large sum, another might not want his until a week later, and meanwhile some more would come in. He would find, in fact, that balancing withdrawals against payments in he had a store of money of more or less constant size lying continuously in his vaults. This would mean, of course, that he could safely make a profit out of some of

* See footnote on p. 97.

this money, either by using it in his own business or by lending it to others at interest. In fact, once the medieval religious prejudice against lending at interest had gone, banking gradually became a business in itself; and a new kind of means of payment came into existence—the bank note.

Strictly speaking, bank notes were not primarily a means of payment. They were merely promises to pay. A bank, instead of lending the actual coins out of its vaults, made its loans in the form of notes which could be exchanged for gold if the bearer wished. And the same thing happened as happened with the gold and silver deposited with the old goldsmiths; the notes came in, but they did not come in all at once; and as the banks got interest on their paper loans, it naturally paid them to issue as many notes as they could. The position of a bank issuing banknotes against a reserve of gold is just like that of a man juggling with five oranges. If the oranges all landed at once, he could not possibly catch them, having only two hands; but he keeps them circulating in the air and so none are dropped. Just so the banks only kept enough reserve to cover, say, two thirds of their notes, and trusted to the notes being kept circulating outside so that at no moment would more than two thirds of them be presented. As might be expected, this system did not always work smoothly. Some banks issued more notes than could remain in circulation, found one day that more were presented for payment than their reserves could meet, and had to put up their shutters and go into bankruptcy. So in the end the power to issue notes was legally restricted to the Bank of England and a few others; the overwhelming majority of notes in circulation being those of the Bank of England, which

alone were legal tender—that is, bound to be accepted in payment of a debt.

That is the origin of paper money, which as we see came into existence as a promise to pay, was used as a means of payment, and circulated side by side with gold. It maintained its value—although the paper on which it was printed was worth only a fraction of a penny—simply because it was known to be exchangeable for gold on demand. This system is called the Gold Standard.

The Gold Standard. The “preservation of equilibrium under the Gold Standard” is the automatic process by which the amount of money in circulation is prevented from expanding or shrinking except within narrow limits. In theory, once the price of an ounce of uncoined gold is fixed in currency—once, that is, the currency is “on the Gold Standard” the process begins to work roughly as follows:—If there is too much money in circulation, taking all note issues together, prices of goods will begin to rise (since the amount of goods to be bought has not changed) so that a sovereign will buy less goods than before. Therefore it will not pay so many people to bring gold to the Mint to be turned into money; they will prefer to have it made into dental plates and watch-chains and jewellery, since the prices of these things have risen. So far, this is just a particular instance of the law of supply and demand; but the effect is proportionately more serious. For the banks cannot by law issue more than a certain amount of notes over and above the value of their gold reserve, and when gold stops coming in, and is on the contrary withdrawn for melting down, they have to call in some of their notes. This means that there is less money in circulation, and the price level falls again;

equilibrium is re-established. When, on the other hand, there is too little money in circulation, the price of goods falls, so that a sovereign will buy more ; gold is brought to the Mint, the banks find their gold holdings increasing and are able to issue more notes, the total supply of money is increased and the price level rises.

International Trade. But the most important function of the Gold Standard is in international trade. Suppose that with the Gold Standard mechanism in full working order there is too much money in England, so that English prices rise above those of the rest of the world ; then it will pay foreigners to sell in England, but it will not pay them to buy. Gold will have to be exported to pay for the goods imported, so that less will remain behind to serve as a basis for notes. The note circulation will shrink, and since there will be less money to pay for the same amount of goods, prices will have to fall. Then it will once more pay foreigners better to buy in England, and will not pay them so much to sell ; equilibrium will be re-established. This international movement of gold under the Gold Standard tends to keep all international prices level ; and this movement is more important than the flow of gold into and out of coined form, mentioned in the last paragraph.*

* In September, 1931, Great Britain went legally "off the Gold Standard," that is, the Bank of England was no longer bound to redeem notes with gold. But the value of the pound at home hardly altered at all, because there was no important change in the amount of notes. It fell abroad because at the time we "went off gold" more people wanted to buy foreign goods and securities (for which they would need foreign currencies) than wanted to buy British goods and securities (for which they would need pounds). Next, several countries trading largely with Great Britain followed suit so that their goods should not be too highly priced in pounds. Then the U.S.A. left the Gold Standard in order to raise prices by inflation. This left it with few supporters ; but most economists and statesmen still regard it as the normal currency system for the world.

Cheques. The next development of the banking system was in a different direction. Instead of increasing the amount of currency in circulation, it found a means of doing without currency at all in large transactions. That means is the *cheque*. A cheque is not legal tender; it is a promise to pay which can, if both parties to the transaction agree, take the place of legal tender. When a cheque is made out and presented there is no need for money to move at all. If both parties have accounts at the same bank, all that happens is that the bank debits the payer's account with the sum indicated on the cheque, and credits the payee's account with the same amount. If they bank at different places the process is only slightly less simple; the debiting and crediting is done at the *Clearing House*, which sets bank debts off one against another, so that if clients of Barclays have made out cheques to the total of £5,000 in favour of clients of Lloyds, and clients of Lloyds have made out cheques to the total of £4,950 in favour of clients of Barclays, the debts are set off one against another at the Clearing House and only a balance of £50 remains to be settled.

Now the development of this cheque system is in many ways rather like the development of the bank-note issue. It economizes currency as bank-notes economize gold. As a cheque is backed only by the credit of the individual making it out, and not by that of the bank, it does not go into general circulation as the banknotes did; but it does have a similar effect in increasing the total volume of means of exchange, by virtue of the fact, noted above, that when cheques are in general use the amount of money passing not only between individuals but between banks is reduced to a very small proportion of the total sums involved in the transactions carried out; so that

that total is made far less dependent on the mere physical quantity of gold in existence.

A cheque, then, holds a sort of intermediate position between money and credit, much as the old bank notes did; but it partakes more of the nature of credit, and less of that of money, than they did. A system where cheques play a large part is much more flexible than one where they are unimportant. A bank can grant a loan by merely making a book entry to the effect that Mr. Jones has a deposit of so much to his credit; Mr. Jones can make out cheques to Mr. Smith, on the strength of this deposit, which may be presented by Mr. Smith, not for cash, but to be credited to *his* account by another book entry. All this new means of payment has come into existence without any automatic corresponding increase in the amount of legal tender currency. There is a relation between them, since banks will not create unlimited deposits on a limited cash reserve, which after all *may* be drawn on by the person presenting the cheque; but the relation is a very indirect one.

Bills of Exchange. Cheques are used both in commerce and in personal transactions. Another kind of promise to pay, the *Bill of Exchange*, serves as a means of payment only in commercial transactions, but, like cheques, economizes currency. A Bill of Exchange is a written request from A to his debtor B to pay a certain sum on a certain date to his creditor C. Thus one transaction serves instead of the two arising if B were to pay A and A pay C, an important economy if A and C are living in distant places. Thus it is much used in international trade, where its effects were especially great before the development of cables and wireless (*See Appendix II*).

Besides being a means of transferring purchasing power from one place to another it is a means of transferring it from one time to another. A bill for £100, payable three months hence, will sell now, for a sum less than £100, the precise amount of the deduction depending on the market rate of discount; that is, it can for a consideration be turned into cash at very little notice. Thus it is both an investment (since the discount lessens and its value therefore increases as the end of the three months draws near) and a handy possible source of ready money.

*SUMMARY. Money is a means of exchange and a unit of account. Its value depends on the commodities it will purchase. Its efficiency depends on that value (i.e., the price level) being kept reasonably steady, as violent movements either up or down dislocate industry. The most convenient monetary system so far devised is the Gold Standard, under which we find a stock of gold held by the banks (mainly by such central banks, as the Bank of England, the Reichsbank, and the Federal Reserve Bank in the U.S.A.), not used in circulation but only for export; a number of notes bearing a fixed or only slightly variable proportion to this stock of gold; and a token coinage used for small transactions. Side by side with this public currency, the legal means of exchange, there is the private currency provided by the cheque, the bill of exchange, and other forms of commercial security.**

* The advantages and disadvantages of this system compared with others—systems based on two metals, or on lists of commodities, or consisting entirely of gold—form too large and technical a subject for treatment here.

CHAPTER IX

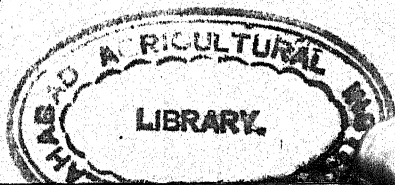
LOCALIZATION OF INDUSTRY: THE GEOGRAPHICAL FRAMEWORK

A *WIDER View of Industry.* So far, we have looked at industry from fairly close to. We have examined the way in which individual concerns decide in what proportions the factors of production shall be used, the influences which make them grow and decline, and the differences between the way the entrepreneur looks at things and the way the economist looks at them. Now we are going to take a wider view; it is as though we had been botanizing in a wood, and were now about to make an aeroplane survey of it. Instead of asking "Why are rolling-mills just the size they are?" or "Why do steel works and coal mines so often belong to the same people?" we shall be asking such questions as "Why are all the cotton-mills of England in Lancashire?" and "Why does Detroit manufacture automobiles?" We shall, in fact, be studying the geographical distribution of industry; not in detail—we will leave that to the geographer, for it is not the business of economics to find out just what is the particular industry of every town—but in general, by finding out what things cause an industry to be set up in one place rather than another, and to become more and more firmly established as time goes on; or what other forces may cause it to move to another spot.

Industries very seldom start from scratch. They are set up in some established centre, usually in a town which is already of a fair size, in order to take advantage of such things as houses for the workers, paved streets, road and railway and canal communications, and so on. Sometimes a manufacturer who has plenty of capital and means to do things on a large scale prefers to build his own houses, pave his own streets, and plan a whole town to suit his requirements and those of his workers. Port Sunlight and Bournville are examples of this. But such enterprises are the exception rather than the rule. A manufacturer, in choosing a place to set up a new factory, usually confines his choice to the centres which already exist, without giving much consideration to the possibilities of the open country. But to ask "Which came first, the town or its industries?" is about as useful as the original riddle about the hen and the egg. Once a centre gets started at all, it attracts industries to serve its needs. These industries in turn need workers, who are themselves customers; they increase the size of the centre, and so make it attractive to still more manufacturers. The whole process works cumulatively. Moreover, quite apart from "industries" in the narrow sense of the word, any large industrial town attracts a number of personal workers—doctors, lawyers, actors, clergymen—and is apt to become an administrative centre where the government employs a number of workmen. Each one of these is a consumer and increases the attractiveness of the town as a market.

Why Industries Concentrate. It is not only this simple cumulative attraction, which an established centre exerts on industry and enterprise, which is important.

There is also the fact that birds of a feather flock together, in economic affairs as in others, because they find it more convenient. A town which has a large population engaged in manufacturing cotton will have an attraction for all industry simply because it is a large town, but a special attraction for cotton manufacturers. Why is this? There are several reasons. In the first place, there will be skilled workers there. A new enterprise will not have to struggle against the handicap of an absolutely inexperienced staff. Then, there will be other industries which are necessary to cotton manufacture; there will be factories turning out cotton-spinning and cotton-weaving machinery, there will be chemical factories preparing dyes, and most important of all (since no cotton manufacturer carries on all the processes from raw cotton to finished cloth, and most content themselves with one process only) there will be works engaged on processes other than this, which prepare his material for him, or take over his goods to finish them for the final consumer. Moreover, a business man who is thinking of setting up a new cotton factory will be attracted to Manchester and its surroundings by the special institutions which have grown up there to suit the cotton industry. Banking practice is adapted to its convenience. There are marketing facilities: an Exchange which is in touch with distant customers, a group of dealers whose business it is to watch changes in market conditions and who can take the whole business of selling right off the manufacturer's shoulders. A manufacturer who set up his business outside Lancashire would lose this advantage. He would be out of touch with the market and so handicapped in dealing with the rest of the world, in financing his business, and in "keeping in the swim" generally.



All this is quite apart from any wider questions of climate and communications.

How Towns Begin. But what is it that gives the first push to the growth of a town? If we went far enough back into history we should find the first towns arising as much for purposes of defence as for any other, being glorified stockades in which the surrounding population could take refuge in time of trouble. But this particular cause for their existence does not matter much these days. Generally speaking, towns grow up for economic reasons, by some such process as we have described above; and they grow where they do because transport conditions are more favourable there than elsewhere. Industrial technique, and communications—these are the two sets of causes at which we have to look when studying localization. They influence one another, of course; concentration in towns made the Industrial Revolution possible, and the Industrial Revolution in turn brought about that improvement in transport which made for future growth. But with few exceptions, one can say that the chief factor deciding where a town shall grow up is the geographical one—the configuration of coastlines, the way rivers and passes run, the position of convenient fords and bridgeable narrows, and so on. Sometimes, it is true, particular industries and not transport facilities are the prime cause of a town's establishment. A town grows up around a new oilfield or gold mine without taking much account of existing trade routes. But generally speaking this only happens when the industry in question is an *extractive* one—concerned, as its name shows, with getting something out of the soil, and therefore fixed to the place where that thing is found. One town may grow more than

another on account of its industrial advantages, but in their actual first settlement, whatever industries they may have possessed at their remote time, towns depend for their position on transport peculiarities. There are several different principles which apply all round and take several different shapes; we will now have a look at one or two of these.

Trade Route Junctions. A town will, for instance, almost invariably spring up at the point where two trade routes meet. The working of this principle can be seen most clearly in seaport towns. Land transport meets sea transport at the point where transshipment can be carried on most conveniently; that is to say, where there is shelter against bad weather, deep water near shore, and good communications inland. The first two at least of these conditions are usually satisfied when a large river flows into the sea and forms an estuary; and in consequence, most estuaries have their sea ports. London on the Thames, Liverpool on the Mersey, Hull on the Humber—there is no need to pile up obvious examples. The richer the hinterland (the area, that is, for which the port is the sea outlet), the larger the port.

The same tendency shows itself when the two or more routes concerned are land routes. Loads of goods from one point travelling to different destinations, would have to be sorted out and perhaps re-packed (remember we are speaking of rather primitive transport methods, for in old countries at least it is these whose needs were taken into consideration as the early towns grew up; no others were known) when the track divided. Caravans and convoys would have to wait longer, as a result, at these points than at their ordinary halts, and settlements would grow

up to serve their needs. These settlements would prove convenient centres for merchants, who would be in a good position to keep an eye on trade coming from several directions; and the cumulative expansion of industries and population would follow automatically. Examples of this kind of growth, at the intersection of two or more land routes, are Milan, focussing the trade routes of Lombardy, and Chicago, doing the same for those of the Middle Western plain. The half legendary city of Timbuctoo, in the Sahara, probably began the same way.

Rivers. Before the railroad age rivers were more important to transport than they are now, and consequently there are few big cities which have not got their river. The tendency to build beside a river in order to use it for transport is less plain in England, where rivers are all small, and it is the estuary of an English river which has generally attracted population centres. But the great waterways of Europe—the Rhine, the Danube, the Volga—have nourished cities strung out for hundreds of miles along their banks, the precise sites being determined by bridgeable points making transshipment easy. So long as climate and soil permit, there will always be a town where two navigable rivers meet; thus St. Louis is placed at the juncture of the Missouri and the Mississippi, and Lyons at that of the Doubs and the Rhone.

Breaks in Trade Routes. Another principle determining where towns shall spring up is that wherever a trade route meets an obstruction, or still more wherever a number of trade routes converge to the point where an obstruction can best be passed, there will be a town. If there is a pass over a range of mountains, trade routes will converge to its foot on both sides, and on each side there will be a town.

Thus Bâle, Berne and Geneva focus the routes over the Alps, and Leeds has grown up at the mouth of a gap in the Pennines. Where the navigability of a river is interrupted by rapids or shallows, a town is likely to spring up at one end of the obstruction at least. Bonn, for instance, has thriven on the narrowing of the Rhine, which makes transshipment necessary in order to navigate the reach just above it.

Often both these principles work together ; the exact place, for instance, of a seaport town on an estuary is apt to be determined by the fact that the estuary is not only a sea route, but also an obstacle to a land route. Where a navigable river is bridged, there will certainly be a town ; because trade routes will converge on the bridge, and sea-going ships will have to stop there. London grew up where it did, and not at Gravesend, because the Thames was bridgeable there and not lower down.

Entrepôt Trade. When a town springs up at a more than usually important junction of trade routes, as London and Cologne and Venice did, they will come to have what is known as an *entrepôt* trade. This is a development of the usual business of transshipping goods from one kind of transport to another—from sea-going to river-going boats, for example—and involves storing and warehousing them until the time comes to send them on. Transport may not be available at once, and meanwhile the goods have to be looked after. Distributing and warehousing facilities, as they improve, become an attraction ; goods are sent to the centre not merely as a stage in transit, but to be held there until a market can be found for them elsewhere. This business is apt to fall more and more into the hands of merchants living in the city

itself; and this leads to the establishment there of a financial centre to handle the commercial transactions involved. Financial facilities in turn attract more shipping and warehousing business; the effect is cumulative, and all the time the growth of population is having its usual magnetic effect on industry; business breeds business, of its own kind and of others. London, the greatest entrepôt city of the world, is the plainest example. It was a port first and foremost; it was a port before it was a capital. From being a port it became an entrepôt and a financial centre, and as its population increased its industries developed accordingly. In the course of time its financial importance has become even greater than that of its shipping, and financial business is transacted in London which has nothing to do with any cargoes actually entering London docks. But it all began with the geographical situation, the command of the routes to the Continent, north and south, on the one hand, and the focussing of the inland English trade routes at the Thames bridges on the other.

Local Specialization. To turn to a slightly different question: Given a number of established centres, at spots determined by transport facilities, why do particular industries develop in one place rather than in another? For one thing, there will be broad geographical reasons. An enterprise must be established in a suitable climate. All farming is, of course, particularly dependent on climate; so much so that its localization is taken for granted. Nobody asks (once they are out of the elementary school) why wheat is grown in Canada rather than in the Sahara desert, or why there are no rubber plantations in England. Industry, in the sense of manufacture,

is more independent, and yet not altogether so. Cotton, for instance, requires to be a little damp while it is being worked; and this is one of the reasons why the cotton industry has thriven especially in Lancashire, which gets a steady stream of moist winds from the Atlantic. Extremes of heat and cold, or unhealthy dampness, can altogether prevent any industry from starting; whatever their wealth of mineral or vegetable raw materials it is safe to say that neither the Arctic regions nor Central Africa will ever boast any great industrial centres.

But far more important than climate to industry is nearness to raw materials. The iron and steel industry springs up near iron mines; if possible (since it uses enormous quantities of coal) near coal mines as well. The British iron industry is an interesting example of this. The large-scale industry which began at the time of the Industrial Revolution, in the late eighteenth century, was able to take advantage of the fact that in Northumberland and Durham, and in the Midlands, iron ore and coal are found almost side by side, so that costs of transport could be brought very low. Later on, when some of the iron mines began to give out, and the ore turned out to be unsuitable for new processes, the industry still continued and thrived because its coal was cheap, although now it had to pay for bringing its ore from a distance.

When the material is very heavy and bulky in proportion to its value, as in this case, the question of nearness to its sources is particularly important. It is also important when the material is perishable. Whale oil refineries, for instance, find it so necessary to be near the sources of whale oil that they are installed on board large ships which follow the whaling fleets on their expeditions. Similarly, sardine or fruit canning factories are established

near fishing ports or orchards. Nearness to material, however, is often the deciding factor in localization even when it is neither heavy nor perishable ; or the industry stays on in the same place, long after the character of its raw material, or of the transport which it used to depend on, have completely changed, out of sheer inertia.

In industries where the working up of the material makes little difference to the weight, nearness to customers is just as important as nearness to raw material. A manufacturer who is working up several tons of raw material in order to get one ton of finished goods will prefer to be near the material and save heavy transport charges ; but if there is no important change in weight, or if the finished goods are fragile and hard to pack, he may well prefer to be near his customers. Thus, although most of the timber used in England is imported, one does not find woodworking manufacturers set up exclusively or even mainly at the ports. Furniture factories can be found in every fair-sized town ; they follow the market, not the original source of their material. But whether it is nearness to raw material or nearness to customers which is relevant, transport facilities remain the chief consideration in the localization of industries as in the growth of population centres.

Transport Facilities. This cumulative growth, trade, industry and residential population mutually reinforcing one another, does not leave those transport facilities just as it found them. Just as soon as a centre has been established, people begin to spend time and money on improving its original communications. Roads are widened and metalled, railways developed, harbours dredged, buoyed and lighted, docks built and enlarged,

and bridges strengthened or duplicated. Indeed, after this process has gone on for some time, the artificial advantages may far outweigh the original ones. London's docks, roads and railways between them represent far more transport facilities than the original marshy estuary and single bridge on account of which they grew up; and nowadays a manufacturer who is thinking of setting up a new factory, or a speculative builder planning a new residential area, will not worry nearly so much about the original natural communications as he will about railways and roads.

Why Relative Advantages Change. As the economic conditions and the relative importance of different parts of the world alter, so do the relative advantages of different geographical positions. If a good trade route is supplanted by the discovery of a better one, the towns serving it will cease to expand—or at least, will cease to expand as fast as they did; we have seen that an existing centre has in itself a fairly considerable power of expansion. The clearest illustrations to this point can be drawn from the Mediterranean towns. Before the New World was discovered, the Mediterranean sea routes between East and West were far the most important of their kind; and the Italian ports serving them were the greatest of their day. When America was discovered the Atlantic routes gradually caught up and outgrew the Mediterranean ones in importance; it became more useful to occupy a site commanding the Atlantic than one commanding the Mediterranean. London and Bristol, Amsterdam and Rotterdam, found they had a new advantage over Genoa and Venice. But Genoa and Venice did not actually shrink away or stop expanding; they only grew more

slowly than their new rivals. Strictly speaking, the new Atlantic ports were hardly in competition with them at all; they supplemented them, serving new routes while the Italian ports continued to serve the old; the change was relative only.

An absolute, and not merely relative, slowing up is more likely to result when geographical or technical changes puts a new direct competitor into the field or strengthens one already in it. Thus, Bristol and Southampton compete for the Atlantic trade. Bristol had the advantage as long as ships remained below a certain size, but lacks sufficient depth of water to take the big Atlantic liners of to-day; so they go to Southampton, and Southampton has far outstripped its eighteenth century rival. Again, in the early nineteenth century, the New England ports looked like outstripping the English ones as shipbuilding and outfitting centres, because America was supreme in the building of fast wooden sailing ships. But when wooden ships were replaced by iron and steel ones, and sail by steam, English shipbuilding forged ahead and the relative advantage of English ports increased. Or—to take a geographical example—all the ports of West Africa were certainly slowed up in their development when the Suez Canal made it unnecessary for Eastward-bound ships to round the Cape of Good Hope. They continued to grow, because Africa itself was developing; but they did not grow as fast as they would have if they had also been ports of call for the Far Eastern trade.

Changes in Localization. So far our examples have been drawn from seaport towns; but the same influences are at work everywhere. As technique changes, relative advantage changes. In the eighteenth century, when

power for factories was mainly water power, used directly, industry was spread out along the course of streams. When steam power developed, industry concentrated near the coalfields. Now that electric power is developing, the relative advantage of the coalfield sites has diminished, and we hear of "industry moving South." As transport improves actual physical nearness to materials and customers becomes less important, the effective market widens, and industries are free to group themselves in units of the best technical size; and the process of competition adapts localization to the new relative advantages. Geographical organization, like technical organization, is in a constant state of flux. Owing to the inertia of large population centres, the change is very much slower, for the social cost of suddenly transferring industries bodily to new sites which take full advantage of changed conditions would be enormous; but, while population may remain, its occupation may slowly change from one generation to another. Underneath the numberless small rapid adjustments of technique and ownership, changes in localization go on much as the Gulf Stream goes on under the troubled surface of the Atlantic.

Localization and Tariffs. There is a conclusion, bearing on the vexed question of Protection, to be drawn from all this discussion; the conclusion that there are normally sound reasons for an industry being set up in one place rather than in another, and sound reasons for its shifting elsewhere. Towns and their industries do not expand or shrink just for the fun of the thing. If tin-tacks are produced in Lichtenstein and none in Monaco, the chances are that Lichtenstein has certain natural advantages for the production of tin-tacks. Therefore it is probably unwise

for the Government of Monaco to try and encourage a native tin-tack industry by putting up a tariff wall against tin-tacks from Lichtenstein. And the Government of Lichtenstein will also be ill-advised in preventing the entry of the scent-bottles for which (let us say) Monaco is famous, in order to foster a scent-bottle industry at home. To put the point more generally: There are strong forces at work to make different places specialize in the goods for whose production they are best suited by their particular natural and acquired advantages. Therefore there is good cause to believe, unless in each particular case it is specifically proved to the contrary, that the world's work can be most economically done by leaving this process of specialization to work itself out by such automatic adjustments as have been illustrated; while Protection (which results in pushing along industries which otherwise would decline or fail to grow up at all) means a loss all round, at first sight at least.

But the great tariff controversy cannot be treated here; all that has been done here is to point out that tariffs in general run counter to that principle of localization which we have been discussing, and which is only a particular case of the division of labour—the first root of economy

SUMMARY. The localisation of industry depends on a number of causes, of which the most important, apart from historical chances, are natural resources, climate, and transport facilities. Centres of population attract industries as they constitute markets and labour supplies. Industries of the same sort tend to concentrate in the same place. Places tend to attract those industries to which their special advantages are most important; this is a special case of the division of labour.

CHAPTER X

THE NATIONAL INCOME

IN the chapters which follow we shall be discussing the way in which the product of industry gets divided up among those factors which have helped to produce it, and through them among the owners of those factors, whether they own land, machinery, organizing ability, or merely muscle. But first it will give us a clearer idea of how the whole process hangs together if we look at the total product itself, as it emerges from the working of the various principles which we studied in the last section ; that is to say, the National Income. What is, in fact, this sum total ; on what does its total size depend, and how can it be measured ?

The National Income Defined. To answer the first question, "What is the National Income?" is not so simple as it looks. We can simplify at the start by making it clear that we are not dealing with the amount of wealth comprised within any particular national frontiers, irrespective of who owns it or of how many people those frontiers contain. National wealth is the wealth owned by all the persons inhabiting the national territory, whether it is itself situated within that territory or not ; and whether a given figure of national wealth represents riches or poverty depends on how many people

have to share it. But one cannot simply add up the value of all the goods and services produced in a country during a year, and say "This is the national income," for two very good reasons, which had better be dealt with separately. The first is that to do so involves counting a number of things—indeed, most things—twice over or more. In order to produce houses, clay has to be dug up, and to be baked into bricks, which then have to be laid. If we count the clay *and* the bricks *and* the house, and add up all their values, it is quite plain that we get a double reckoning. Each thing should be counted once only, and that in its finished state. The national income should not, in principle, include "producers' goods." This at once makes it almost impossible to measure; there are so many border line cases. What is one to say, for instance, of the stock of oats which may be fed to a plough-horse, and so be merely incidental to the production of other crops, or may be made into porridge?

Inequality of Incomes Distorts Values. Another reason why we cannot add up all the values of things produced and call the sum the national income, lies in the effect which the inequality of incomes has on the values of certain goods and services. A few examples will show what this effect is. Let us suppose that Dr. Foster, the eminent Harley Street specialist, is paid 800 guineas for performing an operation on Signor Fracasso, the world-famous tenor, who has earned the money by singing at a series of private concerts given by Mr. Guldenschein, whose fortune is derived from a unique mine of black diamonds, which are bought mainly by Mrs. Foster, Signora Fracasso, and others with equally wealthy husbands. Surely there is here, once more, something in

the nature of a double reckoning. The values of Signor Fracasso's voice, of Dr. Foster's skill, and of Mr. Guldenschein's diamonds, all depend on the present distribution of income; that is, on there being some people who can pay the money. And these people are Signor Fracasso, Dr. Foster, and Mr. Guldenschein themselves. If they agreed to charge one another half as much, or twice as much, it would make no difference to the things produced. The values are inflated by the uneven distribution of wealth; and the national income, considered as a sum available for redistribution, is inflated accordingly.

An Index, Not a Description, of Wealth. Enough has been said to show that any summing up and delimitation of the National Income must necessarily be a very rough-and-ready, uncertain business. Looked at closely, the very idea of a National Income is rather elusive. But we should not be too much discouraged by this; we need only admit what has become obvious—that any measurements we may make can only be taken as *indices*, not as exact scientific descriptions, of national wealth. Avoiding the first sort of double reckoning is statistically difficult, but possible; and if we take the amount of error due to the second sort as remaining about the same in different times and places, we can get some sort of comparison of national wealth and say “This nation is richer than that” or “This nation is growing richer and that poorer.”

Not all National Incomes are Comparable. Yet there are limits to the usefulness and possibility of even such rough-and-ready comparisons as these, if we want to use them as indications of *welfare*. If distances of time and space become too great, comparisons become completely meaningless. How on earth is one to compare the

national wealth of Great Britain with that of Egypt? Or the national wealth of the United States to-day, with that of the inhabitants of the same territory before its discovery by Europeans? As soon as there is any substantial difference of staple commodities, climate, or even tastes, comparison becomes impossible, or at least is no guide whatever to welfare. This is quite obvious when we look at the second of our two examples, and see that most of the wealth of the United States to-day consists in things of which the aboriginal Red Indian had no notion at all, and on which, therefore, he could not set a value. But it is equally true of the first. Take the mere question of houses. The English workman—even the poorest, in the most desolate derelict mining village—lives in a house built of brick or stone, and in which there is room to stand up. The Egyptian peasant, even the fairly well-to-do one, lives as a matter of course in a mud-and-wattle hut which may have headroom. But the different uses to which these houses are put makes any comparison based on this fact quite absurd. The English worker *lives* in his house; even taking it that he works far from home, leaving early in the morning and returning late at night, or that he spends all his spare time at the public-house, his family lives there. The Egyptian worker does not live in his, nor do his family. They keep their belongings in it; they do some, but by no means all, of their cooking in it; and they sleep in it—though not invariably. They *live* outdoors. Their climate and their customs allow them to; the English climate and customs do not. Again, climate and custom allow the Egyptian to go bare-foot; they do not allow the Englishman to do so. So any comparison of the national welfare of Great Britain and Egypt, based

(among other things) on the total value of houses and shoes in the two countries, would be wildly misleading.

All this has been rather discouraging. But common sense comes to the rescue, and points out one or two consoling facts to make up for the destruction which has been going on. We have seen that we cannot exactly measure any national income; and that we cannot scientifically compare any two national incomes, whether of widely different nations or of the same nation at widely separate points in its history. But no one will deny that a nation *can* in fact be better off, or worse off, than its neighbours, or can itself grow better off, or worse off, through time; that there are reasons for these differences and changes; and that these reasons are worth studying.

Causes of Variation : Quality of the Race. What, then, are the causes on which the size of the national income depends? Partly, they will lie in the nature of the people concerned; partly, in their surroundings. Evidently, a society whose citizens are strong and healthy and intelligent is likely to be richer than one composed of rather stupid weaklings; though (as Professor Cannan has pointed out) it is *strength in proportion to physical needs*, and not merely *strength*, which is important. A race composed of men twice as strong as the rest of humanity, but needing four times as much food, clothing and house room, would tend to be not richer but poorer than the rest.

This average strength and intelligence will in turn depend on the average age of the people concerned. A community most of whose members are in the prime of life, and so at the height of their powers, is likely to be richer than one containing a disproportionate number

of very young children or very old people who are past work ; though there are advantages in a population containing a large proportion of adolescents, which we will have to study when we come to deal with industrial mobility.

Education and training and moral qualities of the commercial sort—honesty, conscientiousness, and initiative—will also be likely to increase the national income ; the former by developing these inherent qualities of strength and intelligence, making them technically effective, and the latter by giving them full scope and driving power.

Another influence affecting the amount of things produced is the attitude of the community towards non-material things. If it prefers, like the Western races, to work hard, play hard, and be constantly occupied, it will create more material wealth than if it prefers, like the Hindu fakir, to sit and meditate on spiritual things without worrying as to whether it is rich or not. But which of these two attitudes is really best is of course a question not of economics but of philosophy and ethics.

Lastly, we saw in an earlier chapter that the size of the national income will partly depend on how close the population is to the optimum, both in absolute number and in distribution between places and occupations.

Physical Surroundings. But, needless to say, national wealth does not merely depend on the qualities of the population as they originally were and as they have been developed. It also depends on physical surroundings. The two sets of causes act on one another, it is true, the more enterprising and stronger nations (to say nothing, for the moment, of their honesty) have generally managed in the past to plant themselves in the best surroundings,

turning out the previous occupants if necessary. On the other hand, surroundings influence national characteristics, some climates being more stimulating than others (compare for instance the temperate zone and the tropics) and some circumstances, such as the extreme cold of the polar regions, or the continuous fogs and mists of Patagonia, being so depressing that they give high physical or mental qualities no chance to develop.

Independently of their effect on human characteristics, different physical surroundings are an obvious cause of greater or lesser national wealth. If a country is fertile, well-watered, rich in mineral deposits, well placed for trade with its neighbours, and provided with good natural communications, its inhabitants are likely to be wealthier than if it were barren and inaccessible. This is not inevitable; compare, for instance, the wealth of the inhabitants of China and India with that of the inhabitants of Australia and Canada, countries far less favoured by Nature. But it is a strong probability.

Capital Equipment. Given certain natural surroundings, innate characteristics and training, the income of a community at any time will depend also on what it has done in the past by way of providing for the future. A people which has always been bent on reaping as much immediate advantage as possible from its work, and letting to-morrow take care of itself, will not in the long run find itself as well off as one which has judiciously spent a fair amount of time and trouble in improvements which will only become profitable later. A purely agricultural community, for instance, given a certain amount of strength and ability, and soil of a certain quality, will be better off if it has in the past spent some

time on draining, road making and building good stables and out-houses, than if it has never troubled to do more than plough and harrow and harvest efficiently. But the most spectacular results of thinking ahead and acting accordingly are seen in industry and commerce. When we study, a few chapters later, the question of interest and investment, we shall see how the balance is struck between present and future; but for the moment it is enough to point out that according to the degree in which a community has or has not advanced from hand-production to machine-production, and from primitive to modern transport and communications, its national income will be larger or smaller.

Organization. Another very important reason for differences in national wealth is that various communities may have *organized* their economic life in different ways, some of which are much better than others. Some kinds of organization encourage each member of the community to do his best: others do not. The old feudal organizations for instance, by which a great proportion of the people were bound to the land on which they lived, and worked most of the time not for themselves but for an overlord, without pay, offered very little encouragement to anyone to get on in the world. However hard a medieval peasant might work, he could not hope to improve his lot much. The result was that he worked less hard, and produced less, than if he had been free, and the whole nation was poorer on account of the faults in its organization.

Apart from this very important matter of incentive, the organization of a community may be more or less favourable to production in several ways. Its laws, for

instance, may be such as to hinder industrial units from grouping themselves in the best way, or at least, not to help them. We have already seen how the English railways suffered, in the course of their development (the national wealth naturally suffering with them), because Parliament disliked the idea of a few big powerful companies and preferred a lot of small competing ones. Tradition, as well as law, has its effect; if there is a tradition in industry that business management is handed down from father to son, without any close scrutiny of ability, production is likely to be less than where responsible posts are open to whoever can fill them best.

Our next five chapters deal with the principles governing the way in which the total wealth of the community is divided up; explaining, amongst other things, why the division is so unequal as it is.

SUMMARY. National incomes vary according to people's innate and cultivated characteristics, to their natural surroundings, to the provision they have made for the future, and to their organisation. The National Income itself, as we have seen, is rather a shadowy idea, quite impossible to measure accurately (owing to the difficulty of double reckoning and the effect of great inequalities of income), and giving no more than a rough index of welfare. But the notion of an available sum total of national wealth, properly understood and limited, has its uses in economics.

CHAPTER XI

WAGES: THE VALUE OF WORK

BY far the biggest proportion of the national income is paid out in the form of wages, and therefore we will begin by studying these. Why do they vary so much between different workers? Why are they as high as they are and no higher? What is the real effect of Trade Unions? These are the questions which this chapter sets out to answer.

The Classical Theory. The simplest way to look at the matter is to begin with the oldest explanation of all, which said that wages should, in the long run, be equal as between all occupations provided these were equally pleasant. The less pleasant occupations should be more highly paid than the pleasanter ones; so that the "net advantages" would be the same in all occupations. This state of things would come about automatically, because every man in choosing his trade would go into the one where the net advantages—wages and conditions taken together—were the highest; labour in the less advantageous trades would grow scarce, while labour in the more advantageous trades would grow more abundant; they would, therefore, rise in the former and fall in the latter, until all were equal. Any variation in money rates, as between different trades and places, would be accounted

for by variations in the opposite direction, of general conditions. That is, as it were, the ideal state of wages. But it bears not the faintest resemblance to reality. Wages are not equal as between different occupations and places; and so far from the less pleasant occupations being the best paid, low wages and bad conditions generally go together. The coal miner working in a cramped seam a thousand feet underground, the dustman spending all his working hours in an atmosphere of garbage, the farm labourer doing hard and dirty work seven days a week in all weathers, are paid far less than the comparatively comfortable bricklayers and plumbers and carpenters—let alone the brainworkers, doctors, lawyers, managers and such. Moreover, wages differ, even for the same trade from one part of the country to the other. Why is this?

Why the Value of Work Varies. It does not take us very far to give the obvious answer, that one man's work is worth more than another's. What we are trying to find out is *why* one man's work is worth more than another's. It is not only a matter of general personal gifts and abilities. A farm labourer, who can plough a straight furrow, manage and care for farm stock, dig a ditch and trim a hedge, has a far bigger fund of knowledge and general dexterity than a worker in a mass production car factory. Yet he earns perhaps half the latter's pay; and the fisherman, who must have all the lore of weather and sailing at his fingers' tips, is hardly any better off. Within a trade, differences in general personal ability will result in one man's rising farther than another; but this will not account for the great differences of pay as between trades.

Marginal Productivity. To find the real reason for the difference in the value of people's work, we must go back to our old acquaintance the "margin." Just as the utility of a glass of water depends on whether it is considered by itself or as one of several, and if so, of how many, so the value of a man's work, with a given demand, depends on how many other men are doing the same thing; and just as the price of every pound of fish in the market is determined "at the margin" as the price of the pound of fish which the marginal purchaser just decides to buy, so the price of any man's work is measured by the amount which the marginal employer finds it worth his while to pay to the man whom he just decides to employ.

That amount, in turn, will depend on what that man produces. This is the *marginal productivity* explanation of wages; and since productivity depends on other things besides the worker's general ability, such as the price the product will fetch, and the nature of his equipment, it goes some way to explain why wages are higher in the motor car industry than in farming or fishing.

It must constantly be borne in mind that the productivity we are discussing is value productivity, not physical productivity. If an industry doubles its man power it may, provided that it increases its other factors of production in due proportion, have as good a physical output as ever (though, as we saw in Chapter VI, unless it has also improved its technique there is likely to be some falling off). But since there are more of its goods on the market their price will be less, and the value productivity of each man will fall; so, therefore, will the wage employers are willing to pay.

The Effect of Equipment. If equipment in one trade progresses faster than that in another, and demand expands faster than elsewhere, then the marginal productivity of workers in that trade will be higher than elsewhere and so will their wages. Although by seeing what happens when more or less men are employed at a given rate one can estimate the position of the margin for any one industry, it is not really possible entirely to disentangle the productivity of the worker from the productivity of the machine he works with. The productivity of a worker in a Ford factory is one thing; the productivity of the same worker in a concern working with obsolete equipment and old-fashioned methods will obviously be less. Wages are paid because the employer expects to make a profit out of the work for which he pays them. If there is no expectation of profit, there is no inducement to pay wages. That is not to say that employers will immediately discharge a large proportion of their staff as soon as their balance sheets show a loss; they may, taking a long term view, decide that it will pay them better to carry on till things improve, keep their old employees together, keep their goods in the public eye, and cover something at least of their overhead expenses. But if the loss continues too long, dismissals are bound to follow. Wages therefore cannot, in any trade, rise far above marginal productivity level without unemployment following; what the workers gain on the roundabouts they lose on the swings.

Labour and Profitability. Profitability varies from industry to industry as conditions change, and with profitability the demand for labour changes. Wages, therefore, will tend to vary from industry to industry,

according to the efficiency with which each is run, the state of demand for the finished product, and so on. But this still does not entirely explain the inequality of wages. It gives us one link in the chain of circumstances by which they are caused; it shows that there are forces at work constantly varying the return to labour in different occupations. But that is not enough to account for *permanent* differences in wage levels. Why do not workers in occupations where productivity is low leave them and go to others where it is high? What is wrong with the old classical theory of net advantages?

Causes of Inequality. This is one of the cases where pure theory—the application of the laws of supply and demand—will not help much. The reasons for the inequality of wages can be described as matters of common knowledge; there are many of them, some slight in themselves, but all adding up to produce a considerable effect.

1. In the first place there is the lack of knowledge. The market for labour is not like our imaginary fish market where everybody knows just what prices everybody else is asking or paying. A workman in Wales quite probably does not know at all whether more or less money is being paid for his sort of work in Scotland or the Midlands. He is still less likely to know what wages are being paid in different trades outside his own immediate neighbourhood, and even within that neighbourhood his knowledge may be too hazy for him to want to act on it.

2. In the second place, there is the fact that a skilled worker who changes his trade loses the advantage of his

skill. Wages are lower in the engineering than in the building industry, but not many engineers, if any, turn to building. To do so would mean sacrificing all the advantages of their training and starting again from the bottom ; and even that would be exceedingly difficult under trade union regulations.

3. In the third place there is the sheer weight of inertia. People do not want to leave their homes and familiar surroundings for the sake of twopence an hour extra at the other end of England, even if the money is to be earned in the same industry ; and even apart from any change of residence, wage earners, like most other people, get into a groove and dislike the idea of getting out of it.

All this sounds worse than it is. For it is much easier for a new recruit to industry—a boy or girl just out of school—to go into the trade or industry which offers the best prospects than it is for a man who has worked twenty years on the same sort of job and in the same place. There is no training to be sacrificed, home ties are less binding, and generally there is much less of a rut to be escaped from. It follows that the more young people there are coming on to the labour market each year, in proportion to the total population, the greater is the mobility of labour and the greater the force working to equalize net advantages. A country whose population is expanding is therefore better off in this respect than one whose population is stationary.

4. These " frictional influences " are not, however, the only causes of inequality of wages. There is also the important fact that inequality perpetuates itself—a truth applying to all forms of income. A very poor

labouring family cannot afford to support their children during the long apprenticeship required for a skilled trade ; so the children in turn become labourers, the wages of labourers remain low because there are so many of them, and those of skilled artizans remains high because there are so few of them. This is all the more likely to happen where the entrance into skilled trades is made more difficult by trade union restrictions, such as rules laying down that only so many apprentices should be taken on at a time. It is hardly necessary to run through the whole argument again to explain the still wider differences between wages, whether skilled or unskilled, and salaries—the pay of the “black-coated worker.” Most brain work takes training, longer and more expensive than that for even the highest-skilled manual work ; those who are poor to start off with cannot afford it, so the supply of brainworkers remains limited and their price, or wage, accordingly remains high.

The explanation of the inequality of wages can therefore be summed up as follows : Wages depend on productivity, and productivity depends on ability, training and equipment in the widest sense. Ability varies ; training is too expensive for the poorest workers, so that the difference between skilled and unskilled wages is not wiped out by a flow of labour from unskilled to skilled occupations ; and the comparative efficiency of equipment as between different industries is constantly varying, while mobility between industries and places is checked by ignorance, inertia, and the fear of losing the advantages of specialized skill.

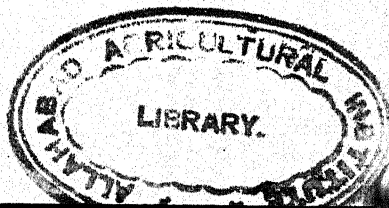
The Power of Trade Unions. It will be seen from the foregoing account of the causes determining the height of

wages that trade unions have very limited powers—however well organized they may be—towards raising the wage-level in their respective industries. Some power, however, they undoubtedly do have. In what does it consist?

In the first place they can see that there is as little lag as possible between any rise in the profitability of an industry and the corresponding rise in wages. If there is, in any industry, a big margin between productivity and wages, wages being below productivity, that will mean that there are extra profits to be had there by employing labour; resources will be moved into the industry, and the competition of new employers or of old employers expanding their business will drive wages up to productivity level. But this may be a slow process. The unions can take a short cut, in a way that unorganized labour cannot, by insisting that the full productivity wage shall be paid at once.

But to see the full importance of the effect which Trade Unions have on wages one must look further ahead, and see what other consequences, beside a certain amount of unemployment, follow when wages are raised, whether up to or above productivity level. There are consequences affecting both the worker and the employer, the first being the most obvious.

High Wages and Efficiency. A low wage means a low standard of living, and a low standard of living (which in concrete terms means underfeeding or unwholesome food, overcrowded and dirty slum conditions, shoddy clothes, leaking boots, and so on) means inefficient labour. A man is unlikely to be a good worker if he is half-starved, if he was rickety as a child owing to the lack of sunshine



in the slums, and if his home is so overcrowded that he is driven to spend all his spare time at the public-house. He is likely to be feeble, to miss a good many working days owing to sickness, and to be careless and dirty because he has always been used to dirt and muddle in his own life. This argument cannot be pushed too far, since some work is so mechanical that even a crippled half-wit could do it; but for any work that needs care, intelligence or strength the underpaid worker is an inefficient and costly worker. When wages are so low that the workers receiving them are below the poverty line—when they are getting so little that their poverty makes them inefficient—then an increase in wages even well above what represents their marginal productivity at that moment will pay for itself, from the employer's point of view, by making them more efficient. As their standard of living rises their marginal productivity itself rises, and equilibrium is established again. Some employers are wide-awake enough to see this for themselves; but many are not, and are content to drag along with ill-paid and therefore inefficient workers, saying with perfect truth that their work is worth no more than it is now getting. That is where the Trade Unions (or failing them the Trade Boards) can step in and force the short-sighted employer to raise wages, the higher rate being justified by the increase of efficiency which is brought about by a higher standard of life.

Even where wages are high enough for the standard of living and the efficiency of the workers to be adequate, a rise may be a good thing for the industry, because of its effect on the employer. It is quite possible, in spite of the stimulus of competition, for the employers throughout an industry to get slack and self-satisfied and to run

their businesses, although tolerably well, much less well than is possible, without worrying nearly enough about possible improvements in equipment, new processes and ideas, new markets and so on. It does that sort of employer a great deal of good to have an active Trade Union constantly prodding him out of his complacency and saying "Set your house in order, and pay us better wages!" Even if the Trade Union does nothing but press in this way for better pay, that pressure forces the employer to sit up and take notice, and so is likely to increase the efficiency of the industry. If its efficiency is in fact increased, profits will increase too, and so the rise in wages will be justified by a rise in marginal productivity.

High Wages and Unemployment. If a Trade Union pushes wages too far ahead of marginal productivity it overshoots itself and causes unemployment. This happens in two ways; firstly, the employers may put up the prices of the finished product, so that the demand for it contracts, less is produced and men are sacked or put on short time; secondly, they may decide to use more labour-saving machinery, which will also displace labour—substituting, in the technical phrase, capital for labour at the margin. The first of these results is wholly bad for the workers concerned. The second is bad in the short run, but may be good in the long run. If a rise of two per cent. in labour costs finally decides an employer to be venturesome, and to introduce machinery which saves ten per cent., the fall in price may stimulate the demand so much that the industry affected will expand enough to take in all those previously employed, paying them the higher rate. Temporary unemployment in this case is

followed by a real gain. The power of Trade Unions to raise wages therefore extends some way beyond that of merely seeing that they keep pace with marginal productivity; but this power depends entirely on the possibilities of increasing marginal productivity once those wages are raised. If no improvement is possible, or if those same Trade Unions (as they only too often do) put obstacles in the way of improvements in efficiency, then their action merely results in unemployment, with no net gain to the workers at all.

In these circumstances, the power of Trade Unions merely amounts to saying that the equilibrium of the labour market shall be reached only by adjusting the amount of labour bought, and not the price offered for it. Like the "ring" of fishermen in Chapter III, they fix a minimum price, and if the whole available supply is not sold at that price, then part remains unsold—that is, a certain number of workers remain unemployed. The Trade Unions exert monopoly power like any other selling combine; the merits of their action, from the worker's point of view, depend mainly on the elasticity of demand for labour. When the demand is elastic, the fixing of the price means so large a falling off in employment as entirely to offset the gains from higher wages, even without counting the loss to the community as a whole.

SUMMARY. The causes determining what any worker's pay may be at a given time are firstly, the demand for the produce of his work; secondly, his own personal ability and training; thirdly, the efficiency of the equipment with which he works; fourthly, the extent to which Trade Union action in the past has kept wages up as high as productivity

warrants (this factor may also have influenced the previous two); and fifthly, the extent to which the worker has in choosing his job acted deliberately and with a full knowledge of the circumstances, or haphazardly and in ignorance.

CHAPTER XII

RENT AND QUASI-RENT: THE VALUE OF CONCRETE CAPITAL

RENT in classical theory always meant the rent of land; "land" being in classical phraseology, short for "factors of inelastic supply." We discussed this point earlier and came to the conclusion that, while this idea of inelastic supply was a valuable one, "land" was not a good word for general use in this connection, because although land was probably one of the most difficult things of which to increase the supply if one had 500 years to do it in, there are any number of things whose supply is equally inelastic if we are thinking, not of 500 years, but of five weeks or five days. Moreover, the value of "land" consists to a great extent of improvements which have been made in the past and which can be added to; so that effectively, although the supply of actual acres is very inelastic, the supply of the *services* of those acres is very much less so.

Rent and Marginal Productivity. The amount people are willing to pay for land and concrete capital is determined essentially in just the same way as that which they are willing to pay for other factors of production. It depends on marginal productivity. We saw in the last chapter how this acts in the case of wages; the process

is the same for land, with the marginal acre filling the place of the marginal worker. But there is a difference in the form of the pricing process, because of the inelasticity of supply—whether it is the permanent inelasticity of supply of corner sites on Piccadilly or the temporary inelasticity of supply of shipyards during a shipping boom. The amount of work which people are able and willing to do depends a good deal on the wages which they are offered, but the amount of land available in a given spot will not expand however much is paid for it. Inequalities of marginal productivity between different sorts of land, and hence differences in value, cannot be remedied as can inequalities of marginal productivity in, for instance, omnibuses on different routes; equilibrium can only be reached by prices, that is rents, remaining at different levels more or less permanently. However far the rent of first-rate land rises above that of second-rate land, there is practically no possibility of any increase in its quantity, at all events when the particular quality lies not in fertility but in situation; there is no tendency towards equalization. Land can, it is true, be turned from one use to another. Agricultural land, when a railway is driven through it, may serve as a factory site, and the factory in turn may manufacture different articles, so that the same land may help to produce in turn corn, potatoes, bombs and typewriters, according to which pays best. But for any particular purpose, land remains graded in all degrees of better and worse, and no adjustment is possible.

Quasi-rent. This sort of permanent scarcity value is not, as was said earlier, attached only to land. If a war breaks out, and the demand for steel for munitions and

guns consequently shoots up, then the price of steel will rise, the profitability of blast-furnaces will increase, and they will be worth more. In the long run, doubtless, more blast furnaces can be built, but what matters at the moment is the short run ; there is a definite extra scarcity value on blast furnaces compared with, for instance, cotton factories, and until new blast furnaces can be built that extra value will remain. The extra value depends entirely on the price of the product, and rises and falls with it ; it is just like the rent of land.

The same rule holds good when, instead of a rise in the price of the product, we have to do with a fall. In the long run, people will allow the supply of the factor affected to fall off ; but in the meanwhile there are our solid blast-furnaces or railways or whatever it may be, and they will not crumble away just because the price of the things they produce has fallen. Their scarcity value has declined, and the price paid for them has declined accordingly. As we saw in Chapter IV, once a thing is produced its cost of production can no longer affect its value ; the value is determined by the scarcity relative to demand, and in the case of factors of production—"producers' goods"—that demand is based on the productivity of the factor. The income which can be derived from any particular patch of land or piece of machinery depends on its fertility or efficiency—that is, on its physical productivity—and the price per unit of the product. And any income which is yielded under such conditions that the supply of the factor from which it is derived cannot be immediately adjusted to changes in the value of the final product, however caused, is rent or quasi-rent—the latter being so called in order to distinguish it from pure or permanent rent. *Rent* is the yield of the "original and indestructible

powers of the soil"; *quasi-rent* is the yield of man-made instruments of production. But they obey the same laws.

Rents and Wages Compared. In so far as the size of rents and quasi-rents depend on productivity and the price of the final product, it resembles income derived from work. But none of the other causes governing the size of income from work have their counterpart in the determination of pure rent. There can be no question of mobility from the less well-paid to the better-paid occupations. When we pass from pure rent to quasi-rent immobility becomes merely stickiness; but in so far as that stickiness persists—in so far, that is to say, as we are considering a period of time shorter than that which is needed to increase the supply of the factor concerned—the price of the product will be the only thing affecting the amount that people will pay for the use of the factor.

Another special point about rents, compared with other kinds of income, is brought out if we push the comparison with wages a little further and see what effect a rise in rent has on the supply of the factor. With wages, we saw that while the connection between high wages and a large total number of workers was negligible, that between high wages and a high intensity of work was close. With rents there is no such connection. An increase in rent is not followed by an increase in the quantity of the factor for which rent is paid, nor a decrease by a falling off.

The Classical Dilemma Explained. This is the truth at the back of the very confusing classical theorem that "rent does not enter into price." Of course it "enters into" price in the sense that the rent of a site and of a factory is as much a part of a manufacturer's expenses as any

other outlay, and that he will not go on indefinitely running his business unless all his outlays are covered by the price of the goods he produces; but all the same the classics were quite right in putting rent on a different footing from other costs. A rise in the cost of a manufacturer's fuel is an immediate incentive to the coal-mine owner to produce more coal; the cost of his factory site, on the contrary, is not an incentive to anyone at all, and the cost of the factory itself is only effective as an incentive if we consider a period of time sufficiently long to build one. Therefore the price of coal helps to determine the scarcity of coal, but the price of corner sites on Piccadilly has no effect in determining the scarcity of such sites. This means that though rent is affected by price it does not itself determine price. It could only do so by altering scarcity, and it cannot alter scarcity. *Any changes in rent must come from the demand side.* Rent is a yield quite unrelated to the original cost of the factor for which it is paid; it arises ultimately from present scarcity, immediately from the price of the products of the factor concerned. At a point of time—if we imagine a kind of instantaneous flashlight view of the economic world—all physical yields of all factors of production are pure rent. Over a thousand years, only a very few yields—such as those of sites at natural bridge-heads or harbours—are pure rent. Over the vaguely defined period of time which one generally considers in economic discussion it is convenient to regard the yield of land and of heavy fixed capital as a rent or a quasi-rent, and inconvenient, being a stretching of language, to regard the yield of, say, a flock of poultry as a rent. But the nature of rent—as a yield unrelated to the original cost of the factor producing it—remains the same for all.

SUMMARY. *Rent is the return to factors of inelastic supply, and so depends wholly on demand. As an item in price, it forms part of the total cost of the goods in whose production those factors are used ; but while, like other costs, rent is paid in the expectation that the price received for the finished product will be profitable, it does not, like other costs, have an influence on the scarcity of the factors concerned which do eventually influence price. It is price-determined, not price-determining.*

CHAPTER XIII

INTEREST

WHILE rent is the lump sum yield of a concrete factor of production, interest is the rate of yield on a calculated money value. It is the return on loan capital. Rent, as we have seen, is independent of the original cost of the factor yielding it; interest establishes the connection between that yield and the present value of the factor. If, for instance, a factory is producing goods valued at £10,000 a year and the rate of interest is 5 per cent., then the factory's capital value is £200,000.

Pure and Commercial Interest. The meaning of the word "interest" is, fortunately, one on which there is no important difference of opinion between the economist and the man in the street. It is the amount which is repaid by a borrower over and above the original sum lent, and the "rate of interest" is the percentage of the original sum which that amount represents. This statement needs qualification. Money is lent at widely varying rates of interest to different borrowers for different purposes; but the pure rate of interest, which we are discussing, is the same for the whole of any market at any given time. The difference between pure and commercial interest arises because some loans are safer than others; and the man who wants to borrow for a risky enterprise has to pay,

over and above the rate of interest, a certain amount to compensate the lender for this risk. Industrial debentures represent a higher rate of interest than Consols. The pure rate of interest is the return on a perfectly safe investment. What we shall be studying in this chapter is, firstly, the reason why interest is paid at all; secondly, the reason why it is as high as it is; thirdly, how the idea of interest fits in with that of rent which we discussed in the last chapter.

Why Interest is Paid. It is not quite so easy to say why interest is paid as why rent and wages are paid. Evidently people will not work for nothing, and land and capital goods cannot be had for nothing; but why, if Jones lends Brown £100 to-day, should he receive back at the end of the year not £100 but £105? This question seemed at one time so unanswerable that the taking of interest was forbidden by the Church as contrary to right and justice. Actually, after much controversy, economists now give the following comparatively simple explanation.

Interest is the price of the use of a certain amount of loan capital for a certain length of time. Loan capital, like other things, is scarce, and so commands a scarcity value. We have already seen why there is a demand for loan capital—because it can be converted into capital goods which increase productivity and so bring in a greater ultimate return; it remains to be seen why there is a scarcity. Productivity explains people's willingness to pay interest but not the necessity for them to do so.

The function of interest is the same as the function of any other price, that is, to equalise supply and demand. While the rate is at 5 per cent., the effective demand for

loan capital only comes from people who propose to use them for purposes which yield 5 per cent. or over ; and the supply comes from people who will be satisfied with a return on their investment of 5 per cent. or under. The enterprises which will yield only 2 per cent. or 3 per cent. are sifted out, so that only the more urgent capital works are undertaken.

As we know, costs really represent the sacrifice involved, in order to use resources for one end, in not using them for another. When resources are used for the production of capital goods, goods, that is, which only yield satisfactions indirectly by producing consumers' goods some time ahead, present satisfactions are sacrificed ; there is an immediate cost which is on the same footing as any other. But this exchange of present satisfactions for future satisfactions is not carried out on the same basis as the exchange of two sets of present satisfactions ; the right to £105 worth of goods and services in a year's time is worth only £100 now. Why is there this discrepancy on the supply side ?

Some say that the reason for the payment of interest is psychological. According to them, people see future needs as something rather vague and unimportant and present needs as something very definite and urgent ; they discount the future. Interest, according to this theory, is the price paid in order to overcome this unreasonable preference for present over future goods ; and the rate of interest depends on the dispositions towards the future of the people who save.

That some people, at least, think of the future in this way is certain. Primitive peoples, for instance, have very little idea of providing for future needs ; and there are plenty of individuals in civilized countries who are

temperamentally unwilling to look much beyond tomorrow. But that everybody acts like this—that humanity suffers from a universal habit of looking at next year's dinners through the wrong end of the telescope—can hardly be assumed so easily.

Interest and the Length of Life. Economics is on surer ground when it relates unwillingness to exchange £100 now for £100 next year to the fact that human life itself is limited and uncertain in length. It is rather sweeping to say that everyone prefers present satisfactions to future satisfactions; but it is reasonable to say that people prefer to have an expectation of getting back during their lifetime or that of their heirs the satisfactions which they forgo in saving. If the rate of interest fell much below the lowest figure which would satisfy these conditions, say 2 per cent., which returns the original capital in 50 years, people would prefer to use their resources to produce goods which could be consumed straight away, and no fresh supplies of liquid capital would be forthcoming.

On the whole, then, the reason why interest exists can be summed up as follows: there is a *demand* for loan capital because, when converted into capital goods, it increases productivity. The *supply* is limited, not only by the competition of alternative uses which always exists, but because people are unwilling to forgo present satisfactions except on such terms that the sacrifice will be made good during their lifetime or (though here there certainly is a general discounting of the future) in that of their heirs.

Why Interest Varies. So much for our first question—why interest exists. The same arguments which have answered it will throw a light on the second question—what causes it to vary upwards or downwards. In the

first place, if the productivity of capital goods is the reason for the demand for liquid capital, then the demand will increase or fall off according to that productivity. If a new invention like the railways increases productivity, then the rate of interest will tend to go up (though it must be remembered that some inventions may shorten the productive process, and so economize capital even while productivity is increased).

The rate will vary, too, for technical reasons connected with the actual nature of the capital goods in use at any time. The more rapidly they wear out or become obsolete and have to be replaced, the greater will be the demand for fresh liquid capital to replace them.

On the other hand, secular changes in the normal expectation of life may cause the rate to vary over long periods. As one might expect, the great increase in the normal length of life in England during the nineteenth century was paralleled by a decline in the rate of interest in spite of all the inventions which during the same period were increasing the productivity of capital. For if a man expects to live 50 years he knows that a rate of two per cent. will return his capital to him in his life time; whereas four per cent. will be needed if he only anticipates 25 years more.

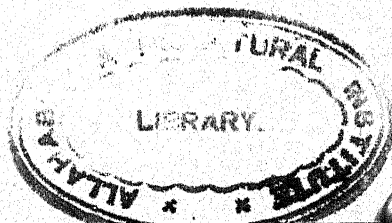
It will depend, too, on how well off people are, taken together. If they have only enough to live on in a miserable way without quite starving to death, they evidently cannot save at all; if they have a good margin to play with, they are free to save or spend as they choose; and if they are enormously wealthy it is really quite difficult for them to spend their whole incomes and they save almost automatically.

The way people think events are going to move in

the future will also influence the rate. We have said above that pure interest does not include payment for bearing the risk that the enterprise may not bear fruit ; but there is another risk—the risk that the fruit may not be enjoyed by the person making the investment. Apart from the uncertainty of human life, there is the uncertainty of political events, possibilities of wars and disorders or high taxation. The pure rate of interest, as well as the commercial rate, will be higher in a Central American republic with an average of three revolutions a year than in a comparatively stable country like Great Britain.

The attitude of any community towards family ties will make a difference to the height of the rate. The more people conceive it to be their duty to leave a supply of capital to their heirs, the lower the rate of interest will be—for the less will be the discount on the future beyond the lifetime of the individual making the decision to save or not to save.

Conflicting Influences may be at Work. These are the chief causes which make the rate of interest vary. Actually, it may at any moment be difficult to predict what will be the consequence to the rate, of some change in social conditions or industrial technique, because the same cause—e.g., a new invention, may act in opposing ways ; say by increasing technical productivity but at the same time saving capital. An invention which made air transport so cheap and safe as to be universal would directly cause a great demand for new loan capital on the one hand, but it would also indirectly cause a falling off in the demand for savings for the purpose of making good depreciation on the railways.



The Relation Between Interest and Rent. This leaves us with one more question to answer; the relation of interest to rents and quasi-rents. How do the two fit in? If the rate of interest depends mostly on the productivity of capital goods, that is to say, on the size of the rents they yield, and measures the price paid for liquid resources embodied in those capital goods, what is the precise relation between them?

To find the clue to this question, we must go back and remember that the value of a capital instrument—the amount, that is, of liquid resources which would have to be raised to buy it—depends on the value of the goods it produces, that is to say on the rents or quasi-rents it yields. If a factory produces goods yielding, when sold, a profit of £10,000 a year, and the rate of interest is 5%, then that factory's capital value is £200,000. If the rate of interest changes, that will also alter the capital value of the factory; for the yield of £10,000, which when the rate was 4 per cent. represented a capital of £250,000, represents only £200,000, when for any reason the rate rises to 5 per cent.; and vice versa. *The rents yielded by a capital instrument are in a constant ratio to its value; and that ratio equals the rate of interest.*

To put it in a nutshell; the *rate* of interest is the rate at which present liquid resources are exchanged against future rents; and the *payments* called interest are simply those same rents looked at in relation to the value of those liquid resources.

SUMMARY. *Interest is the price paid for the use of loan capital. Borrowers are willing to pay it, because loan capital can be turned into fixed capital, which is productive. Lenders*

demand it because they want to get repaid during their lifetime. The height of the rate of interest depends on the one hand on people's willingness to save, which in turn is influenced by the amount of resources they have, by their expectation of life and their attitude to their heirs, and by the general security and continuity of economic life ; and on the other hand, on the productivity of capital goods. Like any other price, the rate will measure the sacrifice made by the marginal saver and the productivity of the marginal bit of capital invested.

When we know the rate of interest we can calculate the capital value of any set of rents or quasi-rents.

CHAPTER XIV

PROFITS

PROFITS are the return to enterprise. This use of the word is not in entire agreement with everyday usage, which would define profits as the excess of receipts over expenses in any enterprise, for the man in the street talks equally of the "profits" of a shoemaker (which are mostly the earnings of labour, and would be more accurately described as wages), of a gas company (which are mostly the return on capital) and of a farmer (which combine both about equally).

What are Profits? Most of what the man in the street calls profits can in fact be analysed out into either payment for the earnings of management, that is wages, or payment for the use of capital, that is rent or interest, according to the way you look at it. The economist uses the word to cover something rather different from this mixed residue, although, as we shall see, not so very different as appears at first sight.

The entrepreneur's job, as we saw earlier, is to bring together all the disconnected factors of production needed in order to satisfy some particular demand, and set them to work, so that that demand is satisfied. Routine managerial work is not enterprise. Enterprise involves ultimate control. The entrepreneur is responsible only

to himself. Other forms of earnings are according to the terms of some contract ; his are not. The questions we have to answer about profits are therefore : does this non-contractual return to the work done by the entrepreneur vary according to the same laws which govern the movements of wages ? If not, what is the difference, and why does it arise ?

Classical Theory : Equal Rates of Profit. The old theory was that profits, like wages, should be equal as between industries. If one industry paid less well than another, then business men would leave it and go into that which paid better. Throughout the business world there would be a standard rate of profit below which the business man would not go for long ; if he did, he would in time turn elsewhere for his living. What this standard rate should be or in fact was, the classical economists did not say ; but some light is thrown on it by the following reported dialogue between two Victorian business men, brothers but engaged in different concerns :

“ How’s trade, James ? ”

“ Bad, John, very bad ; I’m losing money, John, losing money ! ”

“ What ! do you mean you aren’t making 10 per cent ? ”

“ Oh, no, John ! Not as bad as that ! ”

The classical theory did not mean that the incomes of individual business men would necessarily be equal, since presumably people would start with different amounts of capital ; but that profits, the return to enterprise calculated as a percentage of the capital invested, should be more or less equal as between different businesses.

Over a short time, of course, the mere fact that wages

and salaries are paid according to contract, while profits are not, is enough to make all the difference. The revenue of a business varies with the luck of the enterprise, with sudden changes in fashion, with political developments, almost with changes in the weather; out of those revenues fixed and contractual charges have to be met, and the entrepreneur's share is the residue—large, small or non-existent as the case may be. A continued spell of good- or ill-fortune will in time act on wages and salaries; but the entrepreneur's profits are a kind of shock-absorber which takes the effects of all the short-term ups and downs. Over a short period, therefore, there may be absolutely no connection between wage and salary movements and profit movements.

The Entrepreneur's Risk. But in order to discover what differences there may be, not only over a short but over a long period, we must see what the entrepreneur does which the salaried worker or wage earner does not do. In the first place, he bears the risk of losing his capital. It is true that some risks of business can be separated off and passed on to insurance companies, but these are a very small proportion of the whole. A business man can insure against fire, but not against a sudden rise in the price of his raw material, or a change in fashion or new invention which reduces the demand for his goods; still less against a failure of his own judgment as to how prices are going to move or as to whether it will pay him, say, to spend an extra £1,000 on advertising. This unavoidable carrying of risk—the burden of responsibility, is a service which has to be paid for, and which the wage or salary earner does not share.

It should be noticed too, that it is quite misleading to

compare the size of profits with the size of wages and salaries without taking both successful and unsuccessful businesses into account. No one works for a negative salary, but plenty of business men work for negative profits—that is, they make losses. It has even been estimated by some economists that average earnings in the form of profits are lower than average earnings in the form of salaries—that over the whole field of business enterprise, in fact, payment for risk-bearing is negative ! And indeed in a community where business men tended to be over-optimistic about these risks or valued their independence more than the extra security enjoyed by the salaried earner, this might well be so.

But the existence of business risk does partly explain why the work of the successful entrepreneur is more highly paid than the work of the wage-earner. He actually does perform an extra service for which comparatively few people are fitted, so that it has a high scarcity value. Moreover, to be an entrepreneur one needs not only to be willing to risk capital, but to have the capital in the first place, and comparatively few people are equipped with both. It is the great merit of the Joint Stock companies, as we saw, that they allow the people who have capital but not enough ability to manage it and the people who have the ability but not enough capital to back it up, to join forces and divide up risks and profits in proportion to their willingness to incur the one for the sake of getting the other ; this device made it possible for capital and enterprise to combine and for a number of people to become entrepreneurs who otherwise would not have been able to. But legalising of joint stock companies did not put capital into the hands of those people who had nothing at all to start with, and they are still necessarily deterred

from competing as entrepreneurs with their more fortunate fellows. To be an entrepreneur one must have either inherited capital (which means that inequality of capital ownership perpetuates itself from generation to generation, even more than inequality of wages) or have acquired it by saving—which out of wages or a small salary is difficult and on anything like a large scale impossible. This then is an additional scarcity value set on enterprise. But that does not explain why there is even more inequality in profits than there is in wages. Surely, if there were no more obstacles in his way than there are in the way of the wage earner, the entrepreneur (who is after all far better placed from the point of view of knowledge) should be able to move from one occupation to another comparatively easily ; and the net advantages of different industries, to the entrepreneurs engaging in them, should be more or less equalised by competition. How does it happen that they are not ?

Goodwill and Inequality. For one thing there is the question of "goodwill." Goodwill is the sum of a firm's business connections, the value of the continued custom of a group of clients who are used to buying from the firm or using its services. It is the business equivalent of a doctor's practice ; and business can hardly be carried on without it. The building up and sustaining of goodwill is essentially the entrepreneur's job—though of course he works through advertising agents, commercial travellers, and so on. Now a newcomer to any industry, unless he buys up an existing business (in which case there is no effective competition), has to start from the bottom without any goodwill, and build it up. While he is doing so he is risking his capital without any return. If he has

a real technical advantage to exploit, a new process or a new commodity, the chances are that it is worth his while ; but it is difficult for a newcomer to set up in competition along the same lines as his predecessors. He may do just as well technically, but they have a start of him—they have the goodwill. Goodwill, therefore, is one of the barriers which tend to keep outsiders away from the preserves of established businesses and keep profits high.

Moreover in some commodity markets at least, "knowledge of the market" means not so much knowledge of the commodity itself, and the conditions of its production and consumption, as personal knowledge of the members of the "inner ring" of dealers ; and this knowledge is impossible to come by except by practical and often painful experience. It is even harder to acquire than goodwill, for which, after all, a judicious burst of advertising will do much. To enter these markets with any prospect of success the newcomer must be prepared to hang on and bear the inevitable preliminary losses while learning the ropes. Comparatively few have the capital to do this, even if they cared to risk it ; and this, like the matter of goodwill, leads to trading businesses generally being on a large scale and concentrated in the hands of people who have really large amounts of capital.

"In commerce it is especially true that to him that hath shall be given. And he that hath not will sooner or later go into the bankruptcy court, or be amalgamated with him that hath."*

The larger the capital which has to be risked at the start, the harder it is to find people who are willing to undergo that risk. Where the joint stock organization is not general—as in commodity dealing—this is doubly

* Hawtrey: *The Economic Problem*, Chapter V.

true ; and so there is a further scarcity value on the work of the entrepreneur who is adequately equipped. The difficulties of getting capital together in the first place, and of acquiring the necessary knowledge and building up goodwill in the second place, limits the numbers of those who can perform certain services, and so raises the price of those services. The situation is exactly like that of the skilled craft Trade Unions (where, as we saw, the long apprenticeship acts as a bar to recruitment from the ranks of unskilled labour and perpetuates the differences of pay) only it is on a larger scale ; that is all.

SUMMARY. Profit is the return to enterprise ; that is, for the bearing of the uninsurable risks involved in control. It should be distinguished from interest, rent, and earnings of management. Profits in general, being non-contractual, fluctuate much more freely than wages, salaries, and rents, and the idea of a "standard rate" is unsatisfactory, especially when the losses of the unsuccessful are taken into account. As between different occupations, profits may be more unequal than contractual earnings because competition is narrowed by the inequality of wealth, which makes it impossible for many to set up in business on their own account ; by the greater degree of special knowledge required, which limits the number of those qualified for any particular business, and makes it difficult for a man to pass from one business to another ; and by the importance of goodwill which, unlike technical knowledge, can only be acquired by risking capital.

CHAPTER XV

PUBLIC FINANCE

WE set out, at the beginning of this section, to see how the working of economic forces divided up the whole product of industry or commerce, the National Dividend, between the individuals who produced it; whether they earned wages or salaries, provided liquid capital or land and capital instruments, or organised and directed the production process as entrepreneurs.

The State Influences Distribution. But the study of wages, interest, rent and profits does not altogether account for the size of the incomes of the persons earning them; because, during the productive process and afterwards, the State is continually stepping in to modify the way in which wealth is distributed. It has even been suggested that economists ought to recognise a new category of incomes, apart from wages, interest, rents and profits; that is, "Income from Civil Rights" meaning the goods and services which the State hands out to its citizens merely as citizens, such as free education, free medical services, subsidies to housing, old age and widows' pensions, and some forms of out-of-work pay; and there is a good deal to be said for the suggestion. But even without departing so far from the usual practice of economics, it is very necessary, in order to see how this final division of goods and services does work out, to take

account of what the State does in the way of taking money from some and giving it to others. By the State is not meant only the Central Government at Westminster or Washington, but also all the local government bodies big and small up and down the country, County Councils, Borough Councils, Parish Councils and all which raise money from individuals by rates as the Central Government raises them by taxes, and spend it for what appears to them to be the public good.

Why State Intervention is Necessary. The need for this distribution arises from several causes. In the first place, there are some goods and services which are highly necessary to the community as a whole, but which it is nobody's individual business to see to. Roads, for instance, are essential to economic life, but it is hopelessly inconvenient to try and run them as a business proposition. That was tried in the eighteenth century and the system of tolls which had to be devised, in order that the users of the road should recompense the makers of it, was so complicated and such a hindrance to traffic, and the privately constructed roads were of such uneven quality, that the public authorities had to take charge again. Sewers, again, are absolutely essential to any large town; but no private individual would undertake to run a sewage system as a paying concern. To perform these necessary public services a public authority has to step in and raise the necessary money by rates and taxes. The same argument holds good of the Police, the Fire Brigades, the Army, the Navy, and the Air Force, though they do not all come equally under the heading of economic necessities. Private enterprise cannot provide them, so the State has to do the job.

Where Private Enterprise is Inadequate. Beside the things which individual enterprise cannot manage at all, there are the things which it cannot manage adequately. It is to the advantage of all employers to have well-educated workmen, but it would not pay any one employer to run schools for his workers' children, because he has no sort of guarantee that they will in time work for him and so bring him an advantage to correspond to his outlay. And the workers themselves could not afford to pay for the education of their children by private schools run entirely or mainly for profit. So the public authority has to step in and provide free and assisted education, for the good both of those educated and of the community. Similarly with health services such as hospitals, medical panels and welfare clinics, where public expenditure is helped out by voluntary contributions.

The State Responsible for its Citizens. But apart from the function of public finance in supplementing private enterprise, there is a function arising from a rather different reason. That is, that whereas other factors in the economic system can be scrapped when they become obsolete or otherwise unsuitable, workers cannot. A worn-out or disabled man cannot be allowed to go the same way as a worn-out or broken machine, that is, on to the scrap-heap. Nor can the human engine be left without fuel when there is temporarily no work for it to do, as a locomotive or blast furnace can. The economic system, if it is left entirely alone to work automatically, throws off and abandons men and leaves them to starve just as it throws off and abandons machines and leaves them to rust; but no decent and civilized society can allow this to

happen. Private charity is not enough; the fact that it is inadequate was recognized fully 300 years ago. So once again the State has to do what its individual members cannot do, and raise funds to support those who cannot either support themselves or find friends to support them.

A typical contemporary budget does not show these functions of the State in the order of importance which we have given them, because such a large part of it is devoted to paying the interest on debts incurred in order to fight various wars, especially the last. But apart from this question of defence expenditure, that on wars past, present and to come, the objects for which taxes are raised remain roughly as we have outlined them; that is, to supply those goods and services which are of such a kind that private enterprise cannot supply them at all; to supplement private enterprise where it falls most short of social requirements, and to provide a certain minimum of subsistence, however small, for those of its citizens who can find no place in the economic system.

The Income of the State : Taxes and Rates. This it does by raising money, either in the form of taxes, which are imposed by the Central Government and consist of "direct" taxes on income and "indirect" taxes on goods; or of rates, which are imposed by the Local Authorities in proportion to the value of buildings and land. It is important that the money which is needed for these purposes should be collected in the best possible way. There are many ways in which one tax can be worse or better than another. It may cost more or less to collect; it may fall more or less fairly in proportion to people's means; it may discriminate between different goods in a more or

less socially satisfactory way. We will examine some of these differences.

Elements of a Good Tax. In the first place, the less a tax costs to collect, in proportion to its yield, the better. In medieval times, and indeed up to the early nineteenth century, taxes were raised mostly by customs duties on all kinds of imports. These needed so many customs officers to enforce them, and such complicated procedure, and smuggling was so prevalent, that when the tariff was overhauled it was found that many of them yielded less than the cost of collection! Income tax, on the other hand, is proportionately cheap to collect. Generally, and in principle, this consideration means that one big tax is much better than a lot of little ones, for there is a great saving in the cost of collection.

Social Effects of Taxation. Then a tax which raises the price, and so reduces the consumption, of gin is obviously better, from the social point of view, than one which raises the price and so reduces the consumption of milk. The duties on beer and spirits are about the last any Chancellor of the Exchequer would be likely to take off. The old tax on windows, on the other hand (which was devised because the number of windows in a house were taken as a fair indication of its size and hence of its owner's wealth) was a thoroughly pernicious one, as it led to people bricking up their windows to escape it and so cutting themselves off from a proper supply of light and air.

Taxation and Production. To come to a more important point: the less a tax checks production the better. As a witness argued before the Colwyn Committee a few years

ago, the same burden which a man can carry easily on his back may hamper or cripple him if he has to carry it in his arms or tied round his neck. One of the most important problems of public finance is so to adjust taxation that its weight falls as conveniently as possible on the economic system. Before the Revolution in France a large part of the State's revenues were drawn from internal tolls—customs barriers inside the country itself; these made it very expensive to move goods from one part of the country to another, and so prevented the division of labour between areas from developing as it should. When the Revolution swept these barriers away there was a tremendous improvement in production. A tax on the raw material of staple industries, or a horse power tax on industrial machinery, would obviously slow up production much more than an income tax, which taxpayers are free to meet by cutting down in whatever directions they choose, and which puts no special penalty on the entrepreneur.

Justice as Between Rich and Poor. Another perhaps equally important consideration with regard to any tax is the question whether it acts fairly as between rich and poor. A tax system which took no account of the inequality of incomes (such, for instance, as the medieval poll tax), would be a monstrosity. How far taxes ought to be used as an instrument for progressively reducing and finally abolishing all inequality of incomes is a political question outside the scope of this book. But that £10 is likely to mean more to the man with £100 a year than to the man with £1,000 a year is so obvious as to need no dispute; and it follows that any tax system, in order to act fairly, should aim at taking less than £10 from

the man with £100 and more than £10 from the man with £1,000; it should, that is, be more or less "proportional." But the argument goes further than that. Ten shillings out of 80s. a week means much more than £2 out of £6 a week, and that in turn means more than £10 out of £30 a week. The richer a man is, generally speaking, the less important to him is any given proportion of his income. In order to fall really evenly on rich and poor alike, then, a tax ought to be graduated so as to take not only a larger absolute sum, but a larger proportion of total income from the rich man than from the poor. It should be not only proportional but progressive.

Indirect Taxation Usually Regressive. This principle has a bearing on the respective merits of direct and indirect taxation. We saw earlier that in order to avoid numbers of small taxes indirect taxation is generally imposed on staple articles, those which most people constantly use, such as sugar and tea and tobacco and beer. And this in turn means that whereas direct taxes can be made "progressive," that is, getting heavier as incomes get bigger, indirect taxes are apt to be "regressive"—that is, to hit the poor harder than the rich, because the poor man spends a much bigger proportion of his income on these staples than does the rich man. We reach the conclusion that, apart from socially desirable taxes such as that on spirits, the less the State relies on indirect taxes, and the more on direct taxes like income tax, the better.

Claims of Production and Distribution. The chief problem of public finance is to reconcile the requirements of this last principle with those of the one we discussed earlier—that of making the check to production as small

as possible. If some enthusiastic Socialist Minister were to proclaim on Budget Day that he was going to tax all incomes above £250 a year at the rate of 100 per cent. and distribute the proceeds among those who had less than £250 a year, he might be doing no more than push to its logical conclusion the argument on which the principle of progressive taxation is based. But no Chancellor, however much of a Socialist he might be, would dream of doing such a thing, because it would run directly counter to the principle of not discouraging production. The business man's reaction to a tax of that sort would probably be a rather dazed and indignant feeling that the end of the world had come and that he might as well close down his works. I have taken an absurd and extreme case; but any stiff increase of taxation may have a similar effect on some people. The entrepreneur, who as we have seen holds the key position of the whole economic process, should not be startled or penalised too much. An increase in taxation may, of course, make him buckle down and work harder in order to be as well off financially as before; or it may on the other hand make him feel that it is not worth his while to work so hard for a return which is going so largely to other people. That all depends on his frame of mind; to use the technical language of economics, on his elasticity of demand for income in terms of effort. The point where the entrepreneur decides that the game is no longer worth the candle is a limiting point to direct taxation; for to go beyond it is to check production. The point will vary from one period and place to another; the entrepreneur in England now bears burdens which he would never have tolerated fifty years ago; but at any given moment the limit exists.

Death Duties and Saving. The same argument holds good when we are considering taxes which are levied, not evenly over a series of years like the income tax, but irregularly in a lump like the Death Duties. They may act on people's desire to save just as the Income Tax acts on their desire to earn ; they may increase it or they may diminish it—that all depends on their attitude of mind.

Tariffs. The enormously important question of protective tariffs has not been touched on here. That is partly because the primary aim of protective tariffs is not to raise money for the Exchequer, while it is the means of raising money for the Exchequer with which this chapter is concerned ; and partly because the subject really needs a chapter to itself.

SUMMARY. *The State imposes taxes in order to pay for services which cannot be run as a business proposition and in order to support those of its citizens who cannot support themselves or find friends to support them. Taxation should be cheap to collect, should check production as little as possible, and should be fair as between rich and poor.*

CHAPTER XVI

UNEMPLOYMENT

THE last three chapters in this book need something in the nature of an introduction to themselves. Hitherto, our subject matter has been the tools of economic analysis; as it were, the grammar of economics. The remaining three chapters deal with concrete problems on which readers can test these tools for themselves. It is not suggested that they know enough to find the right answer, for all three questions are controversial still. But what has gone before should have taught them to distinguish between what is relevant and what is not, to follow out the chain of cause and effect without making the obvious blunders to which ignorance of analysis lays one open; in a word, to set current economic happenings in some sort of perspective.

Necessarily, the treatment of these questions is rather a touchy matter, and some at any rate of the conclusions readers will find here must be matters of opinion and judgment, and should be treated as such. But at least they will help to provide an example of how a knowledge of economic first principles helps one to sort out a tangle of facts, and of the processes by which other economic problems can be tackled. They show, in fact, economic analysis at work; and they are included more in order to illustrate this working than because there is any satis-

factory final answer to the problems 'available at the moment.

Idle Resources. Probably if a number of people were asked at random "What do you think is the most important economic question?" half of them would say "Unemployment" and the other half "The Trade Cycle." If they were asked to be a little more definite, their answers would draw closer together; they would very probably end by agreeing that what we really want to know is why the economic system never seems able, for any length of time, to fire on all its cylinders. Almost always, a proportion of the world's economic apparatus is prevented, for some reason, from pulling its full weight; idle plant and fallow lands, ships laid up or travelling in ballast, men and women, ready and willing to work, whom no one will employ, confront a quite undoubted and undeniable need for the things which they should be producing. Whether one thinks of the workless men and women and calls the problem "Unemployment" or of the workless factors of production of all kinds and calls the problem "Depression" or "Trade Cycles," it is, apparently, the same question which one wants answered.

Actually that is putting it a little too strongly. Readers need only cast their minds back over what has been said earlier in this book to see that, quite apart from up-and-down fluctuations of trade *in general*, there are bound to be factors of production—human and other—out of work for a whole variety of reasons. Curing the Trade Cycle would not abolish unemployment, though of course it would make a huge difference. A world from which unemployment of all kinds was banished would, paradoxical as it may seem, be a world either of slavery or of

complete economic stagnation. This may sound extremely queer; but let the reader consider the various reasons which cause people to be without work. What are they?

One can begin by ruling out of the discussion the cases of the men too old for work, of invalids, cripples and the work-shy. They certainly do constitute an economic problem for Governments, but they have no particular theoretical interest for economists. Leaving these aside, then, what about the able-bodied and willing unemployed?

Casual Labour. In the first place, unemployment may exist as the counterpart of what is called "casual labour." At the London docks, for instance, the amount of work in hand varies enormously from day to day according to how many ships come in. In these circumstances the dock authorities find it more convenient to take on men when they are wanted, by the hour, rather than regularly, by the week; and men come to gather round the docks in the hope of work, all those available being employed on busy days, but a large proportion being unemployed at other times. This kind of unemployment, or under-employment, is particularly bad because it means that no casually employed dock-worker knows in the least from one day to another what his earnings are likely to be, and so is almost bound to lead a shiftless hand-to-mouth existence.

Seasonal Unemployment. Another reason for unemployment is the fact that some industries vary their output a great deal from one season of the year to another. Unemployment arising from this cause is called seasonal. Winter slows down building and fishing, summer slows

down coalmining and electricity. That means that many bricklayers and plasterers are out of work in winter, and many miners and electricity workers in summer, unless they can combine two trades, changing from one to another with the seasons. Some do this; men work as builders' labourers in the summer and as gaswork hands in the winter; but in spite of such devices, seasonal changes of trade cause a lot of unemployment.

Technical Change. Then there is unemployment arising out of technical changes in industry. Processes of manufacture are constantly developing in such a way as to replace the skill of the worker by the automatic action of machinery, thus throwing the skilled man out of work. If these changes take place slowly, so that all that need happen is that no new workers should be trained in the old way to replace those who retire or die, no unemployment need result; but often the change is so sharp and sudden that no mere slowing up of recruiting will meet the case. This is particularly true when the change in question is not a minor matter of technique but a new invention of first-class importance—one of the most striking examples, and the most tragic in its effects on the old-fashioned skilled workers, being the growth of power-loom weaving in the early nineteenth century. Sometimes the relevant change in technique is in a different industry. The sudden development of one may mean equally sudden catastrophe to another. In Chapter IV we saw how, in the abstract, this may happen; concrete examples are provided by the effect of the invention and spread of motor-cars on horse-breeding, coach and harness making, and the fodder business; or by that of the use of hydro-electric power on coal. Such changes

are apt to be more spectacular than others because of the localization of industry ; if a whole industry is superseded by the rise of another which provides the same services in a different way a whole town or district may go derelict.

Changes in Demand : War. The same sort of effect follows on changes in demand—which, as the last paragraph indicated, are partly dependent on changes in technique. If lace goes out of fashion, the Honiton and Nottinghamshire lacemakers lose their jobs. If people take to wearing low shoes instead of high boots, the tanners and leather-workers suffer. Changes in taste, like changes in technique, may come suddenly or slowly, thus causing more or less unemployment. The biggest of all changes of this sort arises when a war breaks out or ends. At the outbreak of war even individuals want, suddenly, things quite different from what they were buying before—electric torches instead of motor-coach tickets, black-out material instead of bathing suits, an air-raid shelter instead of an education endowment policy, a house in Wales instead of a house in London. And on top of this change in individual demands comes a huge new Government demand ; for fighting men, for transport, for planes and tanks, for uniforms and boots and stores of all kinds.

On balance, war generally means—while it lasts—the virtual abolition of unemployment except for the least avoidable casual and seasonal varieties ; but during the initial change-over some workers are left stranded because the demand for their products has vanished, and others because there has arisen a sudden deficiency of other necessary factors of production. If petrol is short, cars cannot run so far, and people whose work depends on

cars—from garage assistants and taximen to commercial travellers—find themselves possibly unemployed, certainly able to work less than they were. (This effect of war dislocation is not confined to belligerent countries. When the American Civil War caused an acute scarcity of cotton, there was a correspondingly acute crisis of unemployment in Lancashire.)

Post-war Dislocation. But the change in demand which accompanies the outbreak of war is nothing, in its effects on employment, to that which accompanies what cynics have called the "Outbreak of Peace." The big Government demands on the economic system cease, and the resources—both human and other—which have been gathered together and focussed on the single aim of winning the war are left to sort themselves out as best they can among whatever different openings they can find—openings which may be severely curtailed compared with pre-war conditions. Quite apart from direct physical damage, war smashes business connections both at home and abroad, upsets the relationship of prices, and generally puts everything out of step with everything else. Such effects of the Great War of 1914-18 had not died away twenty years after its end. The problem of the Special Areas arose chiefly as a post-war problem—that is to say as a problem of change in demand. The coalfields suffered because war left them with expanded capacity and a decreased demand for their products, after stimulating both the production of competing substitutes and the development of coalmines abroad; cotton, ship-building, engineering, iron and steel shared, to varying degrees, their difficulties. Readers can work the reasons out for themselves; they have to do with varying elastici-

ties of demand, with the processes of substitution, with joint and composite demand and supply, with the adjustment of interest rates to yields, with immobilities in some factors of production and deficiencies in others. Different wars affect different industries; that of 1914-18 was particularly long, particularly widespread and particularly deadly, but the economic principle involved is the same.

Unemployment Classified. Looking at the unemployment figures, therefore, one cannot take them as a measure of the importance of the Trade Cycle. Some of the unemployed will be casual labourers, out of work to-day, working again to-morrow. Some will be seasonal workers, waiting for summer or winter, as the case may be, to bring back their jobs again. Others will be the victims of technical change, unlucky in that their special skills have been superseded more quickly than they can find other work. Others will have been left high and dry through a change in demand; some by a change in fashion, more—far more in this country and century—by the effects and after-effects of war; war in their own country or in another, war to-day or in their fathers' time.

It should now be clear to the reader how a certain measure of unemployment is the price paid for freedom of choice (both by consumers choosing articles and workers choosing jobs) and for economic progress. Whether that price should in fact be paid so largely by the unemployed themselves is a question partly of economics, partly of social ethics. From the point of view of bringing about, as quickly as possible, a re-shuffling of the factors of production into combinations

appropriate to new tastes and techniques (see Chapter XI) the more unendurable the lot of the unemployed worker the better—provided that adjustment is possible at all, which, in the case of an ageing workman stranded by economic change, it may not be. Any alleviation, even the most miserable pittance provided by the meanest-minded or sternest Unemployment Assistance authority, is a brake on this salutary process. Considerations of humanity, decency and social justice, however, are likely to outweigh this unwelcome conclusion. Society has decided that the price of rapid adaptation and the gains to be derived from it are too high for its conscience. This is not an economic decision; but it is a decision with economic effects.

The foregoing paragraphs should have cleared the ground a little. We find, to sum up, that unemployment under the various heads we have looked at falls broadly into four categories:

(1) The unemployment of faulty organization; casual unemployment, seasonal unemployment, and the unemployment of men "between jobs."

(2) Dynamic unemployment; that arising from changes of taste and technique and calling for permanent reshuffling of the factors of production.

(3) Post-war unemployment—from the point of view of theory a part of (2) above, but so much bigger and more important than any other part as to want a heading to itself.

(4) General or Trade Cycle unemployment—the real kernel of the theoretical problem.

Remedies. These varieties of unemployment obviously call for very different remedies. Unemployment is a

symptom, like a headache; one does not use the same remedy on four headaches, one of which is caused by a blow, one by indigestion, one by influenza, and one by a tumour on the brain. To go into all the suggested remedies appropriate and inappropriate would be quite unprofitable in this book; but readers should be able to distinguish between them. There are remedies relevant to the first sort of unemployment—which are mostly administrative; there are remedies appropriate to the second—which must take into account the consumer's freedom to choose how he will spend his income, the worker's freedom to choose his way and place of livelihood, and the possibility of change and progress; to the third, which is partly a matter of establishing the conditions of a durable peace and partly of bringing about, once for all, a readjustment of all the particular dislocations due to wars in the past; and to the fourth, which is the most economically complex, obscure and controversial of all. More dovetailing of occupations, better organization in dockyards and so forth, will help in the first place but cannot do much for the others. Measures designed to increase mobility, more all-round training, development of the Labour Exchanges, will help with the second, but can hardly cope with such exaggerations of the problem as are provided by the Special Areas. The encouragement of new industries, the mass transfer of labour, an attack on the trade barriers crippling the export trade, will help these but will not have much of a chance against the enormous and destructive swing of the Trade Cycle. As for unemployment arising from the Trade Cycle, that can only be solved by curing the Cycle itself; and no one yet knows certainly how to do that. It remains the big unanswered question of economics, which the man in the

street, however confusedly, recognizes as such. What can we reasonably say about it?

SUMMARY. Unemployment of able-bodied and willing workers may be due to particular causes—the casual or seasonal nature of their work, changes in demand or in technique, the particular and exaggerated form of these changes due to war—or to the general cause of trade depression, which is a phase of the Trade Cycle. There is no single remedy for unemployment.

CHAPTER XVII

THE TRADE CYCLE

IT would be very wrong to give readers the idea that the amount of economics they have learned from this book is enough to equip them to solve the problem of the Trade Cycle, or even to get very far with the understanding of other people's attempts at solutions. Far from it; but it is at least profitable to see what bearing the points we have looked at so far have on this outstanding riddle of the economic system. Everyone knows vaguely what a slump is—a time of bad trade, falling prices, unemployment and pessimism; while a boom similarly means good trade, rising prices, overtime and optimism. Much fewer people have any clear idea of just how the boom or slump begins, develops and passes into its opposite; and it is safe to say that nobody yet knows just how this wasteful fluctuation, with all the suffering it entails, can be avoided. But a number of economists have shrewd ideas that if certain things about the economic system were altered it would at least be very much diminished; and after examining just what things do happen, and in what order they happen (an important consideration) we will look at some of these theories and see what principles are embodied in them.

The Progress of the Cycle. In the first place, what are the known facts about trade cycles? We know that they

recur fairly, though not absolutely, regularly, taking eight to twelve years to complete their course and come back to where they started. We know that during the boom period the constructional industries—iron and steel, building, the manufacture of machinery—expand most, that money circulates more rapidly (this is shown by the figures of Clearing House activities); that the prices of all commodities rise; that the short-term rate of interest rises; that profits and wages rise; that more companies are promoted; that unemployment dwindles and overtime is worked; and, generally, that money-making of all sorts is comparatively easy. We know that in the typical Trade Cycle a period of this sort is followed by a crisis, when business optimism overreaches itself and there is a panic, or something approaching it, on the Stock Exchange; whereupon the third phase, the phase of depression, sets in.

In the phase of depression we see that there is a rapid fall in the prices of all commodities, but especially of those used in constructional industry; that the circulation of money slows down; that the rate of interest falls; that it becomes increasingly harder to sell goods; that profits fall off, wages are forced down, and unemployment rises. Finally something happens to restore confidence, the tide turns and industry starts gradually working up to a boom again, thus completing the cycle.

Lines of Enquiry. Confronted with this rough outline, how does the economist set about explaining the Trade Cycle? He will evidently look at the symptoms we have noted and try to distinguish those which are merely effects and those which cast a real light on the causes of the fluctuation. Which of these characteristics of the

Trade Cycle are the significant ones? Or are there others, less obvious, which really ought to be studied?

Unemployment is the cycle's most disastrous symptom and—in so far as it means a heavy reduction in demand—an aggravating feature of the slump; but one cannot choose it as a prime cause. The immediate reason for its arising is that it no longer pays so well to employ labour. The fall in profits—going back one stage—cannot have appeared from nowhere; that cannot be a prime cause either. One stage further back again one finds two influences working to bring down profits: on the demand side, there is the fall in prices—we saw, when studying inflation and deflation, how the entrepreneur was the first to feel the effects of price movements either way: on the supply side there is an upward movement of costs—since, during a boom, production expands and so draws on less satisfactory material, so that the onset of the crisis finds industry comparatively ill-equipped and inefficiently staffed.

We begin to see two lines of enquiry opening up; one dealing with the importance of price movements, with all their effect on the sizes of different people's incomes and on the psychology of entrepreneurs; the other dealing with technical considerations like the efficiency of industry and the particular position of the constructional trades like building, which leads back to the influence of inventions. The two lines of enquiry, in fact, divide and spread until they cover nearly the whole economic field; and to follow them up will prove a very useful way of testing both one's grasp of economic principles and one's knowledge of economic institutions.

Technical Causes. We can begin with what we may

call possible technical causes of the Trade Cycle. The mere fact that there is first a general tendency to be less particular about efficiency, then, after the collapse of trade, a general overhauling, squeezing out of the inefficient and tightening up of methods, suggests that the carelessness may have something to do with the collapse and the tightening up something to do with the recovery. But it does not account for the size of the fluctuations nor for the fact that it generally takes roughly the same amount of time to come back to where it started; it is a real influence but a comparatively minor one.

A Weather Cycle? There have been speculations about a possible cyclical change in the weather. This is not as far-fetched as it sounds; for variations in weather mean variations in crops, and variations in crops mean variations in the demand of the people living in agricultural areas from the produce of people living in industrial areas. But the weak point of this theory is that bumper crops by no means always coincide with boom years; on the contrary, a bumper crop may mean a glut, a crash in prices, and an actually reduced purchasing power. Economists in these days, though they have investigated these weather cycles a certain amount, are not inclined to attach much importance to them.

The Capital Goods Industries. A much more promising possibility occurs to us when we focus our attention on the particular case of constructional goods. The prices and output of these fluctuate much more widely than those of others, and moreover, they start to fluctuate before the rest. That looks as though they might be particularly well worth studying. Actually, what is the difference

between the conditions under which they are produced, economically speaking, and the conditions under which consumers' goods are produced ?

In the first place, the demand for consumers' goods is direct ; the demand for constructional goods is indirect, for they are only wanted in order to produce consumers' goods. This is relevant to our problem ; for it means that producers' goods have got to be produced very much more " on spec." than consumers' goods. A bootmaker, when he is settling how many boots to produce, has to decide how many pairs will be wanted at the price at which he can market them, and what sorts customers will prefer ; but the manufacturer of bootmaking machinery has to consider not only all that, but also the demand for the machinery to make them. Evidently there is more room in his case for errors of judgment.

The Incubation Period. Moreover, constructional goods take some time to make and still longer to get into action. The bootmaker need only think a season ahead ; the bootmaking machinery manufacturer, the engineer, the iron and steel manufacturer, may have to think ahead for years. That is an added difficulty in the way of satisfactory estimates of demand. The French economist, M. Aftalion, has an excellent simile which illustrates the bearing of this fact on Trade Cycles. He reminds his readers how, when extra coal is put on a fire, it does not produce its full effect in the way of heat for some time ; so that very likely in the meanwhile some chilly mortal will add still more fuel, and when both helpings are blazing merrily everyone is too hot. Just so, when a new venture is taking some time to get into its stride, others may be tempted by the continuing scarcity and

high prices to start another like it; with the result that when both are in full blast the market is flooded and prices and profits collapse.

The "Acceleration Principle." But there is more to the constructional-industry question than this. We find at work there what is called the Principle of Acceleration, which can best be explained by an example. Take, once again, the question of boots and bootmaking machinery. Machinery is not everlasting in use; it wears out by degrees and in an efficient industry running on an even keel it is the replacements made necessary by this wearing-out that constitute the demand. Suppose there are 100 machines in action, that they produce 500,000 pairs annually, that is, 5,000 each; and that they last ten years—so that on an average 10 have to be replaced each year. The demand for boots is 500,000 pairs annually, that for machines ten annually—in the initial position. But now suppose that a new demand for boots emerges from somewhere, so that 550,000 pairs are wanted. That is an increase of 10 per cent. What difference does it make to the demand for machinery? It takes *ten* machines to produce 50,000 extra pairs of boots; ten extra, on top of the ten which in the ordinary way are replacing worn-out ones. The principle of acceleration in this case implies that a 10 per cent. increase in demand for the product means a 100 per cent. increase in demand for the machine which makes it.

Nor is that all. Suppose the demand for boots remains steady at the new figure; the same cannot be said of the demand for bootmaking machinery. The annual output of boots is now 550,000, the number of machines in commission is 110, and at the old rate of wearing out, the old

proportion—one-tenth—will need replacing. That means a demand for 11 machines annually—compared with a demand, during the expansion period, for 20 machines. A single, unrepeatable increase in the demand for a consumers' goods has brought about a terrific fluctuation, up and down, in the demand for the corresponding producers' goods. Once expansion has started it must go on, if fluctuations are to be avoided. And, of course, the same thing happens with a decrease in consumers' demand; suppose, in the example given, that the demand fell from 500,000 pairs to 450,000 pairs, that for machinery would, in that year, be completely wiped out; the ten worn-out machines need not be replaced at all. Obviously here there is a tremendous amplifier for all kinds of changes—even minor changes—in consumers' demand; for what applies to bootmaking machinery applies to every kind of capital goods industry, and, of course, particularly to the industries providing for the needs of the capital goods industries themselves. It really looks, here, as if we had a clue.

The peculiar conditions of demand and supply in the capital-goods industries—the greater possibility of miscalculation on the one hand, and what one may call the indirect gearing to the motive power of consumer demand on the other—undoubtedly help us to understand both how an initial small disturbance can be multiplied and why “heavy industry” feels the cycle worst. But they do not explain everything. For, after all, new ventures are being launched all the time, and machinery makers rarely make one kind of machine only. There is no close season for factory building, and no reason—outside the very cycle which we are trying to explain—why demands for all kinds of consumers' goods should fluctuate together.

If the only cause of the Trade Cycle were this sort of miscalculation and secondary fluctuation one would expect them on the whole to cancel out, depression and low prices in one industry being balanced by prosperity and high prices in another. Actually, as we know, prices and profits are apt to soar merrily, or droop dismally, in unison ; one will move a little sooner or possibly a good deal further than another, but they all swing in the same direction and more or less at the same time. Though we have found a valuable and significant fact about why Trade Cycles behave as they do, we have no solution for the problem of why they get going at all.

Innovations. There is a possible answer to this objection. It is true that miscalculations may cancel out to some extent ; but in fact, looking at the history of industrial development, we find a succession of waves of enterprise caused by new inventions and resulting in such a number of new constructional goods, more or less of the same sort, coming into the market at the same time, that no fluctuation of other industries in the opposite direction could counterbalance them. The great railway boom in England in the 'forties, the electrical boom in Germany in the 'nineties, the motor-car boom in the United States in the 'twenties, were far too big for their results to be offset by minor depressions in other industries. Some of the booms of the last century may have begun with the discoveries of gold in California, Australia and South Africa, which suddenly increased the purchasing power available and so caused a virtual inflation—producing, as we saw in the chapter on money, a stimulating effect on business. Outside influences, then—gold discoveries, big inventions (or rather their optimistic exploitation)—have

been marked as giving the first impetus to Trade Cycles, acting through the miscalculations and secondary effects which we discussed before.

Now this argument does take us one step further, but it does not quite fill the bill as it stands. For although a single cycle or even two or three disconnected ones might be explained in terms of the impact on the economic system of some new technical fact from outside, and the repercussions of that impact, one cannot fit every cycle through the whole succession with its appropriate separate cause. The exploitation of technical inventions or new ideas has its effect ; but what causes them to be exploited, so to speak, in waves ?

We have come to the end of our list of possible " real " causes. We have seen that mere variations in general industrial efficiency are not enough ; that weather cycles are of such uncertain effect that they are hardly worth studying ; that business men's miscalculations cannot be assumed to be all in the same direction ; and that the influence of inventions and discoveries, however real they may be, cannot account for the curiously regular movement of the cycle. To find a satisfactory explanation we must evidently supplement the discussion of " real " causes with that of price movements and financial influences.

Prices : Optimism and Pessimism. What possibilities lie in this direction ? Why this zigzag of prices ? Going back to first principles, we know that prices depend on people's estimates of the utility to them of the things they buy ; but we have no reason to suppose that the whole attitude of mind of all civilized humanity towards commodities in general changes periodically, so that they are

now greedy for goods of all kinds, now quite indifferent to them. A more possible suggestion is that although people's estimate of the utility of goods in general may not change, the entrepreneur's estimates of the profitability of business in general may do so. Few things are more contagious than business optimism and pessimism ; not only is there the spread of opinions from one man to another, but the resulting spread of buying in the boom, and withholding of orders in the slump, which gives tangible reasons for optimism to the persons receiving or missing the orders in question. Optimism and pessimism spread, that is, both horizontally and vertically ; from one wholesaler to another and from wholesalers in general to manufacturers in general ; while manufacturers, by taking on men and paying them wages, or discharging them and leaving their money on deposit instead of paying wages, affect the amount of money which is available for spending in the retail shops. These retail shops are the customers of the wholesalers, and these of the manufacturers, and so the circle is complete and the wave of optimism or pessimism can start all over again.

This explanation has its points, particularly when combined with what has gone before, but it has one grave disadvantage ; it does nothing to explain why there should ever be a turning-point at all ! Why, on this hypothesis, should not a boom go on booming for ever ? After all, the demand for one commodity is simply composed of the supply of other commodities ; it is true that it is expressed in money terms, but money, as we have seen, is merely the instrument by means of which people producing one commodity can exchange it for others. If there is more all round, the commodities continue to exchange against one another at more or less the same

rate (though we would expect to find bread fetching relatively less, and cars and wireless sets relatively more, as prosperity increases). If all these producers have in their optimism produced more than they expected, why should not all be for the best in the best of all possible worlds? What can be wrong with plenty?

This is really the central problem of the Trade Cycle, and it is here that controversy between different schools of economists is most fast and furious. What precisely happens to cause this absurd situation of a superfluity of goods which does no good to anyone?

The Underconsumption Theory. Some economists, notably Mr. J. A. Hobson, put it down to the uneven distribution of wealth. Their argument runs roughly as follows: The richest class, who get most of the income, simply cannot find ways of spending it on themselves; so they invest and invest and invest, and their investments result in more and more and more goods being produced, which the people for whom they are intended cannot afford to buy. When the entrepreneurs and the investing class realize this they get panic-stricken and stop investing, which means that there is no demand left for constructional goods, and a general slump follows with overproduction all round. This is a deceptively simple argument and a lot of people (especially Socialists) are convinced by it. But as it stands it has a fatally weak point. Investments are not in fact made without regard to the purchasing power of the customers for whom their final product is meant. They may be wrongly made, as we have seen; and when they are made in the capital goods industries they are particularly subject to fluctuations, as we have also seen; but there seems no reason

on the face of it why the inequality of income should make either of those upsetting influences more powerful.

The Money and Credit System. Others have looked for the cause of crises not to the distribution of wealth between persons but to the monetary system. The whole monetary system, as we saw earlier, has been in the past more or less firmly anchored to gold. And the supply of gold has never, except in one or two bursts like the Californian and Australian gold rushes, increased as fast as the supply of goods in general. That means that in order to finance the expansion of industry and commerce more purchasing power other than gold has to be created—that is, bank credit; unless prices are to fall all the time, which business men hate. In time, as expansion goes on, bankers find that their gold reserve does not bear a sufficiently high proportion to their loans; it is as though, to go back to the simile on page 95, the man who was juggling with five oranges was offered a sixth and a seventh, and began to get dizzy and to feel that, as he had only one pair of hands, he must get rid of the extra oranges as quickly as possible. Business men then find that they can only borrow at very high rates, or—more important—that their bankers refuse to make fresh advances at all and will not renew overdrafts. This is very inconvenient and upsetting to the victims. Perhaps they carry on for a while, until someone overreaches himself, fails to get more credit to stave off disaster, goes bankrupt, and starts a panic; perhaps they merely feel a chilly qualm of doubt and start reducing their commitments (cancelling orders, not renewing contracts, dismissing workers, and so on) right away. In any case, optimism turns to pessimism (with the results

already described) as the result of banking action; and it is, according to this theory, the sudden jerk on the anchor line of the gold standard which does the damage.

Now few economists deny that this has something to do with it. They all agree that if it were practicable to have a credit system which was more elastic over a long period, and less elastic over a short one, fluctuations would be a great deal less violent than they are. But comparatively few would put down the whole existence of the Trade Cycle to the gold standard—describing it, that is, merely as a succession of waves of inflation and deflation. This view is the less likely to be accepted as adequate now that the gold standard has been all but completely discarded almost everywhere, while trade fluctuations still go on.

Mr. Keynes' "General Theory." A very much more subtle explanation is that of Mr. J. M. Keynes, which takes both technical and psychological causes into account, and is a great deal more far-reaching than the rest; more far-reaching because instead of looking on trade fluctuations as something odd that goes wrong with the economic system, it shows the whole economic system and its progress as tied up with them. The trouble with this theory, from the point of view of this book, is that it is far too complex to stand summarizing in the same way as the rest; alongside of the other explanations with which we have been dealing, it looks like Einstein's view of the universe compared with Newton's. So the reader must take what follows only as a very rough sketch of the lines along which some important thinking is being done.

What Settles Investment? At the roots of the trade fluctuation is the volume of investment. When that fluctuates, everything fluctuates. Now that volume depends on several things. It depends on what Mr. Keynes calls the Marginal Efficiency of Capital—that is to say, roughly, on the value of the rents expected to be yielded by the marginal bit of capital in use. It depends on the Propensity to Consume of the community—that is to say, the extent to which it spends, and does not save, or refrain from spending, whatever income it may have. It depends on the community's Liquidity Preference—that is to say, the extent to which it likes to keep its unspent resources where it can lay hands on them immediately, regardless of profit. (According to the state of Liquidity Preference it will take a higher or a lower rate of interest to induce people to put their resources at the disposal of entrepreneurs instead of holding on to them themselves.) Finally, it depends on our old friend the Quantity of Money; for the quantity of money on the one hand, and liquidity preference on the other, determine what rate of interest is needed to get a given amount of resources into the entrepreneur's hands. Everything hangs together. The business man will only invest if the Marginal Efficiency of Capital is greater than the current rate of interest, since that rate is what the funds he invests will cost him to get from the public. If technical conditions change (as with harvest changes, inventions and so forth), or their ideas about customers' buying or about the technical conditions themselves change, then that constitutes a change in the Marginal Efficiency of Capital. In short, business men's expectations on the one hand and rates of interest (depending on the quantity of money and on Liquidity Preference)

on the other, settle how much investment shall go on. And that volume is the really important thing in settling what shall be the total volume of *all* kinds of economic activity.

The Importance of Investment. This is where the theory becomes rather a test of mental agility. If resources are not invested, then they cannot be "saved" either; unspent, they simply run to waste. For the act of saving, if one leaves investment out of it, is merely a matter of not spending; and if money is not spent, then the things that it would have bought are not sold and the people who would have sold them—the butcher, the baker and the candlestick maker—have their incomes reduced to exactly that extent. *If* there is equivalent investment (that is, spending by entrepreneurs on their business) then the makers of investment goods—the riveter, the bricklayer and the engineer—get the money instead of the other three and all is well. But if there is not, then the would-be saving cancels out; for the butcher, the baker and the candlestick maker, having had their incomes reduced, must save less.

For the economy to run on an even keel with full employment, then, there must be a balance between the marginal efficiency of capital (which constitutes the incentive to invest), liquidity preference (which settles the proportion of unspent resources to be kept in cash), the quantity of money itself (which together with liquidity preference determines the rate of interest), and the propensity to consume, which determines the market for goods and services generally. But that balance depends on a great many changeable factors and has no *immediate* tendency to right itself if upset; on the contrary. For

the normal upward trend of production to be interrupted all that is necessary is that yields to investment should some time fall short of the most optimistic imaginings of the entrepreneurs; which, as stocks of capital goods are increasing and their cost of production probably rising (see Chapter VI), they are fairly well bound to do sooner or later. The Marginal Efficiency of Capital collapses. Liquidity preference shoots up. (Everyone wants cash, largely because everyone else wants cash, too.) No entrepreneur wants to invest any more. Any would-be saving merely reduces incomes. That reduces markets—and so yields—and so business men's expectations—and so on, round the vicious spiral of depression; until new investment is rendered absolutely necessary by the fall in stocks of goods and the wearing out of equipment, made easier by lower interest rates, and encouraged (possibly) by new inventions or other investment opportunities) when the cycle starts again. Taking all cycles together, according to Mr. Keynes, the upsetting of the balance generally happens *before* full employment is reached. It is quite possible, particularly where a lot of capital exists and its marginal efficiency is therefore low, for the desire to save to be permanently stronger than the incentive to invest, so that the balance is only struck by a permanent volume of unemployment keeping total incomes and total savings down.

Now this theory does account for a good deal of what others leave unexplained. It explains why booms do not go on booming for ever, whether on the gold standard or any other; it explains why depressions do not go on deepening indefinitely; it explains as much of the regularity of the Trade Cycle as matters. It is not universally accepted by all economists; for instance, not every-

agrees that savings will under any given circumstances shrink or increase exactly as incomes shrink or increase; nor that the changes in business men's expectations are the only, or main, cause of the crisis; nor that one can lump all kinds of investment together for the purposes of the argument. And when it comes to remedies (not discussed here) the disagreement gets even more marked. But at present it looks as if the problem might be solved in the end on lines at all events something like these.

SUMMARY. The Trade Cycle is still something of a mystery. It seems likely that a great number of influences, no single one of which is entirely sufficient to account for it, are at work; changes in demand and technique, and the long production period which characterizes modern methods, giving scope for errors of judgment and waves of optimism and pessimism, which are contagious and cumulative; changes in the relationship between the incentive to invest and the desire to save causing the whole volume of incomes to rise and fall; while the whole process may be accentuated by the nature of the monetary and banking system.

CHAPTER XVIII

NUMBERING THE PEOPLE

ONE of the really interesting and important questions about the future on which economics throws light is that of what is going to happen when the population starts to decline. At present there are some 45 million people in Great Britain; but there will, before this century is out, be many fewer. To explain the detailed process by which population is forecast would take too much space; it is a matter of statistical technique rather than economics. The gist of it is that if you know how many one-year-olds there are alive to-day (and the Registrar-General's figures will tell you) and how many of them are likely to die in each year for the next twenty years (which is fairly predictable on past evidence) then—obviously—you know how many 21-year-olds there will be at the end of that time. If you know how many girls and women there are now aged under 25, then on the same obvious principle you know fairly well how many there will be, twenty years hence, between 20 and 45.

Now one thing stands out at present extremely plainly; twenty years hence, there will be a great deal fewer women between those ages than there are now; because the women between those ages are not, on an average, having a daughter apiece with enough over to allow for wastage. They are—roughly—having an average of

three-quarters of a daughter apiece; for every 1,000 women now between 20 and 45, there will be only 750 in twenty years' time. And if they follow the example of the generation before them, they in turn will be followed by a smaller batch of daughters—something under 600. And so on. This does not mean that the population is going to start falling as fast as that right away. There will be fewer and fewer children decade by decade, as more and more of the present possible mothers pass the age at which children cease to be likely, but the women themselves, and the men of the same age, will remain on the stage for a great deal longer. For some time after the supply of babies has started to diminish, the total population will remain stable. Then the increased number of elderly people will begin to die off faster and faster, as more and more of them pass from the sixties to the seventies and the seventies to the eighties; presently the high death rate at the top will outweigh the low birth rate at the bottom, and the population will start falling, faster and faster. That is the situation in this country now.

The population is still very slightly creeping up, but only because there happen to be a great many people of the right age to be rearing a family, and comparatively few old ones. But it will very soon cease to do so; and already the different age groups are changing their relative size. There are more old people than there were a few years ago, and fewer schoolchildren, and still fewer children under school age. There are little variations in the figures; for instance, the great slump of 1931-3 shows in the tables as a fall in the birth rate (because so many people were too hard up just then to marry and have children) and the recovery of 1934-7 shows

as a rise, when all the slump's arrears were being worked off.*

Directions of Economic Effect. But the trend is unmistakable. After centuries of increase, we are in for a very big decline within the lifetime of young people now alive ; unless people in general suddenly revert to Victorian ideas of what constitutes the right size for a family, which is wildly unlikely.

So much by way of presenting the picture. It has two main features ; first, already apparent, a change in age distribution (that is, the proportions of the total population who are respectively young, middle-aged and old), and second, imminently impending, a decline in total numbers. What will be the economic effects of this change ? For it will evidently have economic effects. There will be fewer workers and more pensioners. There will be more material resources per head, and a smaller market. Different industries will find themselves differently affected. And what about public finance ? And foreign trade ? And the distribution of incomes ? And employment ? So much depends on how big the fall is and how fast it takes place that one cannot, even with the best equipment of economic theory, give a watertight forecast of what is, in fact, going to happen. But economics can, at all events, sort out the possibilities.

Employment. In the first place, what about the effects of the change on employment ? If one tells someone who knows no economics at all that the population is going to decline, he is as likely as not to say " Splendid ! That

* One cannot say just what will be the results of the present war, but they are certainly not likely to be helpful.

will reduce unemployment." But that is not at all a safe conclusion to come to; the matter is not so simple. Thinking things over, he may remember that, after all, hands and mouths go together; fewer hands means fewer mouths to be fed and fewer backs to be clothed, or, in other words, a lessened supply of labour means a lesser demand for its products. There will be fewer jobs as well as fewer people to do them. That is a mere common-sense conclusion requiring no particular economic knowledge. And once again, it does not go far enough. Demand does not come simply from human beings as such; it comes from consumers' purchasing power. If purchasing power remains intact, cannot the lesser number of workers all find employment in turning out the same amount of goods as before, in the certainty that they will be taken off the market? Is not the first instinctive answer—unemployment will diminish—correct?

Age: Composition and Mobility. Here we begin to need the help not merely of common sense but of theoretical knowledge, for this question raises two more. Firstly—*is* income going, in fact, to remain the same as population shrinks? and secondly—does this phrase "the same amount of goods" really mean anything at all, and if so what? We may take the second point first, as being easier to dispose of. Readers will remember that "goods" are only such when they are wanted. It is not the physical shape and constitution of a thing, but the extent to which it fills a want, that gives it economic importance. Now a shrinking population, even supposing that its income remains the same, does not want the same things as a growing population. It needs fewer houses, roads, drains, public works. (We know how

devastating an effect on employment in such capital-goods industries as these is brought about when the desire for their products suffers a slight check.) Being an ageing population, with fewer children and more old people, it needs fewer prams and children's clothes and school books, and more spectacles and false teeth. (We know that changes in demand are one of the causes of unemployment.)

More broadly, one may point the contrast in this way ; when population is expanding, any entrepreneur who produces too much of any staple goods has only to mark time until the demand catches up—as it is practically bound to do ; when it is stationary, he has to rectify his error ; when it is shrinking, he has to make bigger and bigger rectifications as time goes on. From every point of view, a shrinking population adds to the likelihood of people being out of work through changes in demand, and through their repercussion on the capital-goods industries ; it makes mobility more and more important. But that is not all. At the same time as mobility grows more important it grows a good deal harder to achieve. A shrinking population is an ageing population. It contains fewer and fewer adaptable youngsters in their teens and twenties, ready and willing for a change of job or a change of home ; more and more steady-going, middle-aged and elderly workers, too set in their ways to learn a new technique, fit themselves to a new routine, or willingly face transplanting to a new place. Such a working population has its advantages—steadiness and responsibility, thorough knowledge, experience ; but quick adaptability is not among them. One cannot help concluding that the unemployment question is going to get harder rather than easier to solve.

Of course this sort of unemployment—the unemployment of “stickiness” in the labour market—is a less important matter than the unemployment of slumps and post-war dislocations; and unemployment of these kinds is not so likely to be affected one way or the other by population changes. In so far as a young and growing population is likely to consist of individuals more optimistic, more venturesome, and more alert to take advantage of investment opportunities, than an ageing and shrinking population, the latter is likely to make heavier weather of the Trade Cycle; but one cannot dogmatize about it.

Income per Head. So much for employment; what about income? Here we want to get behind the monetary appearance—for the first, obvious impression that there will be more money income per head does not really tell us much until we know what money will buy—to the actual utilities, the goods and services produced. Will a smaller population produce more or less per head than a larger? To put it another way: have we any particular reason to suppose that our present population is above or below, or for that matter at, the optimum? (see Chapter V). Here one has to beware of a certain mental confusion; there are two situations to be taken into account, and what is true of one is not necessarily true of the other. There is the situation when the population is in process of shrinking, and the situation when it is smaller, but stable. Now when the population is shrinking there is an evident likelihood of economic misfits of various kinds, for this reason; the smaller population of each decade provides the market for the capital equipment designed to cater for a larger number of customers—and

it may not be possible to run this equipment so efficiently with this smaller market. It *may*—there is no certainty about it; it depends on technical factors of various kinds (see Chapter VI). But there is certainly scope for miscalculations, as we saw in connection with employment; and there is a much wider scope for *financial* dislocation, for writing down the value of fixed capital is a process which nobody likes and which is apt therefore to get put off. And of course any unemployment resulting from these losses of efficiency or dislocations is itself a cause of reduced incomes both to the unlucky individuals themselves and to society as a whole. Incomes, then, are likely to suffer during the shrinking process itself, regardless of whether that process is taking total numbers nearer to or farther from the optimum.

Stability at a lower figure is another matter. The dislocations and miscalculations are over; what has to be considered now is the balance of loss, through the narrower scope for specialization, and gain, through the large share of material resources per head. The division of labour, as Adam Smith said, depends on the size of the market; a smaller market probably means less division of labour, and so less efficiency and a smaller finished product per head from given resources. (Probably, not necessarily; for division of labour has never in any society been pushed to the utmost technically possible. One has only to think of the possibilities of specialization which would be opened up if domestic work, for instance, was organized as factory industry is organized. There is nothing technically impossible about it; people merely prefer things the way they are.) On the other hand, all the advantages of a larger supply per head of material resources would work the other way;

more land, more minerals, more timber, more, in short, of all those "factors of inelastic supply" which present a problem to an expanding society and which worried Malthus so much. We really have not the data to say in advance where the balance of advantage, in this respect, is likely to lie in Great Britain. A good deal depends on what is happening in the rest of the world. A general relaxation of trade restrictions, for instance, would make the problem a great deal easier to solve, by throwing open fresh markets within whose wider limits specialization could have full play. It would allow British entrepreneurs and workers to concentrate on fewer lines of production in exchange for the products of entrepreneurs and workers elsewhere. Or a steady increase of population in the markets to which British exporters sell would similarly compensate for the fall at home. Neither of these points falls within the scope of this book.

Questions Outstanding. This discussion does not by any means exhaust the list of questions raised by the prospect of a decline in population. There is public finance—but it is really impossible to embark on a realistic discussion of its future at the time of writing. There are questions which lie on the borderland of economics and social policy; for instance, how does the prospective decline affect town planning? And the system of recruitment to industry? And the various insurance funds? There are questions of population policy: since the decline will make all these difficulties, and we do not know when it will stop or indeed whether it is ever likely to stop at all, presumably it is desirable to try and slow it down and eventually to reverse the trend. How? By family allowances? By tax discrimination against

bachelors? By social services making the lot of parents easier? By legislation sending women Back To The Home? By making artificial family limitation a penal offence? Different states have made different experiments along these lines and have achieved different degrees of success—none of them very striking. These questions are not purely economic. They have a social, a political, an ethical, a religious side. But—to revert to the first chapter of this book—here as elsewhere economics helps to sift the grain from the chaff, and is a tool in the citizen's hand wherewith to work for the building of a better future.

SUMMARY. Available statistical data show that total numbers will soon start to decline. This process involves a rise in the average age. From the point of view of employment, the resulting decline in mobility coupled with the growing need for it is likely to increase difficulties; from that of income per head, a probable fall in the extent of specialization may be counterbalanced by the greater supply of material resources per head, according to whether the population is at present at, above, or below the optimum.

APPENDIX I

TABLE TO ILLUSTRATE THE LAW OF
DIMINISHING RETURNS

Men.	Wages.	Value of Yield.	Surplus.
1	75	50	— 25
2	150	150	—
3	225	350	125
4	300	600	300
5	375	675	300
6	450	725	275

APPENDIX II

NOTES ON CERTAIN ECONOMIC INSTITUTIONS

COMMERCIAL AND FINANCIAL INSTITUTIONS

These notes are intended to give the reader a more concrete idea of the structure and working of certain of the institutions mentioned, necessarily briefly, in Chapters

VII and VIII. They do not attempt to cover in detail the whole vast field of business organisation, which is treated at more length in a number of special textbooks (mentioned in the Bibliography), but are added here for ease of reference and to facilitate the useful exercise of tracing, in current happenings in "the City," the workings of the economic principles described in this book.

1. THE BANK OF ENGLAND

The *Bank of England* was founded in 1694 by Charles Paterson, a Scottish business man. It was given the privilege of establishing itself as a joint stock company to carry on the business of issuing notes and dealing in bills of exchange and discounts in return for acting as the intermediary between the Government and the public in the raising of loans to prosecute the war then being waged by William III on the Continent. The Government needed help in raising this loan because it was unpopular; Paterson and his associates needed Government privileges because it had just been decided that the notes issued by the goldsmith bankers were illegal, and this was seriously hampering their business. Moreover, there was a profit to be made by acting as the Government's financial agents. A loan of £1,200,000 was raised and the subscribers incorporated under the title of "The Governors and Company of the Bank of England." Thus were founded the Bank of England and the National Debt.

The new Bank had two original functions. On the one hand, as its original agreement with the Government was extended and amended, it acted as agent in raising a succession of Government loans and made short-term

advances to the Government on its own account ; on the other, it used these funds as a backing for financing private traders and other financial houses. In the course of time, as its powers and activities grew, it acquired a third function—that of chief regulator of credit and later of currency policy. As its note issue and credit terms varied, in accordance with the Bank's gold holdings and its view of the general economic situation, so did prices and trade activity. These functions it has combined ever since, though the *Joint Stock Banks* now act as an intermediary link between the Bank of England and the general public. It acts as the hub of the Money Market ; it acts as the regulator of credit ; it acts as the Government's financial agent and banker.

There is no space here to give a full account of its growth from 1694 to the present day, including the crises connected with the Napoleonic Wars and the Great War. The most important event in its history was the Charter granted to it in 1844, which definitely confirmed its privileges and at the same time regulated its rights to issue notes, which had caused a good deal of trouble and controversy. By the Bank Charter Act of 1844 the note-issuing and the banking functions of the Bank of England were separated, and the *Issue Department* subjected to certain regulations. These provided that no notes should be issued in excess of the amount of securities transferred to the Issue Department (£14,000,000 at that time) unless gold or bullion backing were acquired, £ for £ ; with the exception that if any of the small country banks then active were to cease issuing the Bank might take over up to two-thirds of the issue thus withdrawn, backing it with securities. Both departments were to issue a weekly return showing their financial position ; this is the

Bank Return which can be found in the daily papers every Friday.

For the Issue Department this return shows on the one hand the amount of notes issued (circulating and in hand) and on the other the amount and composition of the backing to these notes. This consists of Government debt, Securities (Government and Other), Silver Coin, Gold Coin and Bullion. For the *Banking Department* it shows on the one hand the amount of the *Proprietors' Capital*, the "*Rest*" or undistributed profits, the *Public Deposits* or Government funds held by the Bank, the *Other Deposits* or funds of other banks (the relation of the Bank of England to the Joint Stock Banks is explained below) and other clients, and a small amount of *Seven Day and Other Bills*; on the other, *Government Securities*, *Other Securities* (advances, bills discounted, and stocks and other bills), *Notes* and *Gold and Silver Coin*. The Notes and Coin represent the reserve and, in accordance with the principles described in Chapter VIII, regulate the Bank's credit policy. The relation between the reserve and the total of deposits (Public and Other) is known as the "*Proportion*," and is the chief criterion by which the Bank moves the *Bank Rate* (i.e. its published minimum discount rate for approved bills) up and down, tightening it up when the *Proportion* is low, lowering it when it is high. Later sections show how this rate governs the rate of interest all through the City and helps to govern it elsewhere.

This is not, however, the Bank's only method of regulating the conditions of credit. There are also its "*open market*" operations, i.e. the buying and selling of securities on the Money Market. When the Bank buys securities it thereby puts into circulation money which can serve

as a basis of credit expansion. When it sells them it thereby withdraws money and contracts the basis of credit. The exact effect varies with the kind of securities bought and sold, and with what the Bank does with the cash or securities acquired; space forbids details, which can be found in most textbooks on the Money Market. The Bank can also act directly through the *Foreign Exchange* market, described below.

2. THE JOINT STOCK BANKS

The history of the *Joint Stock Banks* starts later than that of the Bank of England, chiefly because the Bank held, as part of its privileges, a monopoly of the joint-stock constitution. Until 1833 no banks of more than six partners were allowed within a 65-mile radius of London, and even after 1833 those in London were not allowed to issue notes payable on demand. The little private banks which did the work now done by the Joint Stock Banks were small and easily upset, so the Government in the end had to sanction the latter. They were regulated in 1844, at the same time as the Bank of England, and their issuing powers severely limited. The setting up of new issuing banks was prohibited, and those with existing issuing rights were forbidden to increase their issue. Moreover their notes were not legal tender; people could accept them if they chose, but they need not do so. Thus the issuing business passed gradually out of the hands of the Joint Stock Banks and became concentrated in the hands of the Bank of England.

The Joint Stock Banks are therefore pure banking concerns. It is with them that the public in general deal. They receive deposits either on "*current*" or "*deposit*" account, the latter requiring notice for withdrawal, and

lend them out to industrialists, traders and the financial market, and their activities can be studied in their monthly returns. Part of their deposits are handed in by the public in the form of cash, but these are only the basis of the greater part created by the banks themselves. Knowing, as explained in Chapter VIII, that a little cash goes a long way, they grant credits in the form of *overdrafts* and *advances* to clients who ask for them, to be drawn upon as required. These clients must satisfy the banks as to their ability to repay the credits by depositing shares or other securities (this is called *collateral security*), and, where the overdraft is substantial, by showing that the purpose for which it is required will be profitable.

To meet these liabilities the banks hold assets of varying degrees of realizability. First and most accessible is the cash in their own tills, for day-to-day demands by customers. Next come their deposits with the Bank of England, which acts as the Banker's Bank. A bank which, in relation to other banks, is down on the day's transactions, settles up by transferring some of its funds at the Bank of England to the accounts of its creditors. (Membership of the *Clearing House* depends on holding an account at the Bank of England.) In addition to these reserves the banks keep a proportion of their assets in forms which can be easily converted into cash; *money at call and short notice*, much of it in the form of day-to-day loans, lent to the Money Market and the Stock Exchange, *bills of exchange* and *Treasury Bills* (direct claims on the Government) maturing at different dates but mostly within three months; and general investments, mostly Government securities. The remainder of their assets consists of amounts owed by customers to whom advances have been made. The proportion which these various

items bear to the total remains fairly constant, and is calculated to combine the maximum of liquidity with the maximum of profit.

The banks make profits out of the margin between the rate of interest which they allow to their depositors (in London $1\frac{1}{2}$ per cent. below Bank Rate) and the rates which they charge to borrowers. For long-term loans this is a minimum of 5 per cent. and rises with the Bank Rate, which thus controls the volume of credit a stage further; for short-term loans it depends on market conditions from day to day. Loans to the Money Market are the easiest way of investing surplus funds; consequently the volume of money at call and short notice gives a fair index of the activity of trade and industry. Slack times cause this figure to rise, while busy ones cause it to fall, as a proportion of the total.

3. THE ACCEPTANCE HOUSES

The business of acceptance is part of the mechanism of the *Bill of Exchange*, the main lines of whose functions were mentioned in Chapter VIII. The essence of a Bill of Exchange is that it is an order to pay to a third party on a given date, and this third party must have some means of knowing that the claim will be met when the bill is presented. The *Acceptance Houses*, or *merchant bankers*, will, in return for a commission and the deposit of securities, guarantee the payment of these bills by adding their names as "*acceptors*" to that of the firm on which the bill is drawn, or will open a credit out of which the bill can be met when it is presented, the drawer of the credit reimbursing them before presentation is due. This is an essential part of international trade, and the acceptance houses of London, because of their high stand-

ing and widespread connections, are able to undertake the accepting not only of bills drawn on British traders by foreign traders, and vice versa, but of bills drawn by foreign traders on one another. A bill accepted by a London house is known to be safe, and plenty of people are willing to pay commission to render their bills readily negotiable. The procedure of acceptance varies; facilities may be given directly or through a foreign bank, which may be given credit out of which to finance the transactions of its customers. The sterling Bill of Exchange thus becomes a handy international currency, used for a much greater volume of trade than the export and import trade of Great Britain.

The acceptance houses also play an important part in placing long term foreign issues in London.

4. THE DISCOUNT MARKET

After a bill has been accepted the holder can either keep it until it matures, and then present it for payment, or exchange it for ready money. This sum will be less than the mature value by an amount corresponding to the rate of interest for the period which the bill has to run. (Foreign trade is generally conducted on a basis of sixty or ninety days' credit.) The buyer of an immature bill is said to *discount* it, and a large discount business is done in London. The *Discounting Houses* use their capital as security for loans borrowed from the Joint Stock Banks (see Section 2), and invest the money so borrowed in bills, which they resell to clients who need a convenient and easily negotiable short-term security. They make their profit out of the margin between the rate of discount on the bills and the Joint Stock Banks' rate for "Money at call and short notice."

If the banks are short of funds for this purpose, or if there is an extra large volume of bills to be discounted, the rate for money at call and short notice rises; if even at the higher rate the demand is not satisfied, the Money Market has to go to the Bank of England for accommodation. When this happens, the market is said to be "*In the Bank*." The Bank of England charges more than the Joint Stock Banks for loans, so that a sufficiently severe shortage of funds in the Money Market will sharply raise the rate of discount and so check the inflow of bills.

5. THE FOREIGN EXCHANGES

The foreign exchanges reflect the course of international trade. A brief reference to principles is necessary before the actual machinery of the foreign exchange market is described. It must be remembered that money constitutes a claim on goods and services, but that a national currency consists of claims only on the goods and services of the persons using it. Consequently each national currency must have at any given moment a definite value or *parity* in terms of other currencies, and there must be a market for their exchange. This market follows the same law as other markets. If the price-level of a country varies, the demand for its goods and services, and its own demand for the goods and services of others, vary also. The more it imports, the more foreign currency it will need to settle its debts. The more it exports, the more of its own currency foreigners will need to settle theirs. When more pounds or francs are offered than are demanded, then their price goes down below the current parity; and conversely. When the gold standard is in operation it sets a limit to this variation, since after a point it will pay to transfer gold, which is universally

acceptable, to be sold at the fixed terms, and the transfer of gold sets in motion forces making for equilibrium, as described in Chapter VIII. Readers of earlier sections of this Appendix will be able to trace their working in detail. When the gold standard is suspended the movement may be, and generally is, very much wider.

The actual day-to-day regulation of the foreign exchanges mostly takes place through the market in international bills, that is, the Discount Market. These bills, during their currency, short-circuit a number of exchange transactions, since they allow counterbalancing debts to be offset without any actual transfer of money; ultimately, however, they are reflected in a demand for the currency of the country in favour of whose nationals they were originally drawn. This demand is anticipated in advance; so that in addition to the *spot* or *telegraphic transfer rate* for any currency, reflecting its current demand and supply conditions, there is the *short rate*, or *short exchange*, giving the price of bills payable on sight or at demand, and the *long rate*, or rate for bills maturing sixty or ninety days after date.

The exchanges are considerably influenced by prevailing discount rates. When rates are high in any centre funds are attracted there for investment both on long and short loan, and pressure to convert them into the national currency causes its exchange value to rise. Thus the first line of defence against an adverse exchange movement is the raising of the market discount rate. The exchanges are also influenced by the direct action of the Central Banks in buying and selling gold as a measure of control. Certain countries have "controls" such as the British *Exchange Equalization Fund*, which holds a stock of foreign currency to be sold off, held, or added to

when ordinary commercial transactions or other causes put pressure on the exchanges. Finally there are, especially when the gold standard is suspended or its suspension seems likely, buying and selling movements which are a matter more of public psychology than anything else; "flights from the mark" or unpredictable rushes of money on short-term deposit—sometimes called "*funk-money*"—into London or other centres.

Exchange transactions are carried on by the banks, by *arbitrage brokers* (arbitrage consists in equalizing the rates between different centres), and a number of specialist firms working on commission.

6. THE JOINT STOCK COMPANIES

The greater part of industrial and trading activities are carried on under some form of joint stock organization (see Chapter VII). Companies may be either *public* or *private*; the *public companies*, which are not limited as to membership and are entitled on registration to issue advertisements to the public asking for capital, are subject to more legal regulation than the *private*, which are restricted to a membership of 50 at most and cannot raise money by public subscription. The broad lines of procedure are regulated by law for both, as regards flotation, accounts, auditing, publicity, records and winding up.

The formation of a company begins with the deposit in the hands of the *Registrar-General* of the *Memorandum and Articles of Association*, signed by at least seven persons for a public company and at least two for a private company. The Memorandum states the name, address, and objects of the Company, the amount of capital to be raised, and the class, nominal value, and rate of interest of shares to be issued. The Articles consist of detailed

regulations for the government of the Company. The Registrar then issues a *Certificate of Incorporation*, which formally brings the company into being. The next step, in the case of a public company, is to register and publish the *Prospectus* inviting the public to apply for shares. These prospectuses can be seen in the daily papers and give the public information, of at least the degree of fullness specified by law, about the proposed business of the company, the names and addresses of the directors and auditors, and the manner in which the capital is to be used. The business of launching companies is known as *company promotion*, and is undertaken on commission by financial houses and individuals who may also "*underwrite*" the issue, i.e. undertake to buy any shares not taken up by the public. Or this last function may be performed by a separate firm or firms.

Shares are of different types, which can be graded according to the degree of security offered. First come *debentures*, which are really a mortgage on the company's assets. They bear a fixed rate of interest and take precedence of all other types of share in the distribution of profits, and of assets in winding up. *Preference* shares come next in precedence, and also bear a fixed rate of interest, but are not secured on the company's assets. Finally come the *ordinary shares*, the yield of which varies with the profits left after the above prior charges have been met. These classes of shares are in turn subdivided by provisions varying risk and remuneration; thus preference shares may be "*participating*" or "*cumulative*" and ordinaries may be "*deferred*."

A company is governed by a *Board of Directors*, who must themselves be shareholders, and who decide on policy at periodical *Board Meetings*. One or more

Managing Directors act as executives, controlling and supervising the activities of the managers in charge of manufacture, sales, etc. The shareholders have an opportunity of hearing the Board's statement of accounts, electing auditors, voicing their criticisms, and if necessary enforcing the resignation of directors or indicating a change of policy, either at the *Annual General Meeting* of the company or, if circumstances demand it, at an *Extraordinary Meeting*.

Companies may combine more or less closely among themselves, as described in Chapter VII. The mechanism of combination varies; the mere "gentleman's agreement" as to prices, territory or terms involves no special structure; the *trust*, with a defined price policy or rationed production quotas, enforceable by agreed penalties, generally works through the exchange of directors' seats and of shares; the *holding company* or the *amalgamation* demands the flotation of a new company to acquire the assets of the firms concerned. This holds good whether the integration is "horizontal" or "vertical" (see Chapter VII).

There is in this country no general Act regulating these large-scale developments. A number of special measures govern individual combinations; the *Railways Act* of 1921, the *Electricity Distribution Act* of 1926, the *Coal Marketing Act* of 1930, and others.

The original purchasers of shares may wish to increase, diminish or alter their holdings; the terms at which company shares are bought and sold varying with the actual and expected yield upon them, compared with that obtainable elsewhere (see Chapter XIII). Dealings in shares are carried on at the *Stock Exchanges*, of which by far the most important is in London. The Stock

Exchange is itself a limited liability company with its own rules and constitution; its membership consists of *brokers*, who act as agents between dealers and public, and *jobbers*, who carry on the actual dealing, both buying and selling. Stockbrokers work on commission, called "*brokerage*": jobbers deal with one another, or through the brokers with the public, on their own account. Beside the Stock Exchange brokers there are "*outside brokers*" who deal without being bound by Stock Exchange rules as to advertising, etc.

There is no space here to deal with the technicalities of "bulling," "bearing" and "staggering," nor with the procedure of quotation, accounts and settlement. These may be found in special textbooks on the subject.

7. MISCELLANEOUS INSTITUTIONS

Some special types of joint stock enterprise require individual mention. Most important of these are the *Insurance Companies*, which in return for a premium varying with the risk involved give their clients policies entitling them to payment up to an agreed sum in specified services—death or accident, loss by fire or theft, shipping mishaps, etc. These companies hold considerable funds invested to meet contingencies, and constitute an agency for collecting savings ranking next to the banks in importance. *Investment trusts* are a special form of holding company, buying shares of different kinds, not for control but in order to spread risk over as wide a field as possible and so provide their shareholders with good security at higher rates than those obtainable on Government stock alone. *Co-operative Societies* also require mention. They are set up, under special legal provisions limiting individual capital holdings, mostly for

retail trading, and share profits among their members in proportion to purchases. Retail Co-operative Societies combine among themselves on the same principle for wholesale trading (the Co-operative Wholesale Society.) About one-tenth of the retail trade of the country is carried on in this way.



TEST QUESTIONS

CH. I. "Economics is the science of wealth." "Economics is the science of scarcity." Reconcile these two statements.

CH. II. Are middlemen unproductive ?

What are the advantages of the division of labour ? And what disadvantages can you think of ?

What is meant by "equilibrium" ?

CH. III. Exactly why should bad weather in the North Sea raise the price of herrings ? or Why does the price of coal vary between winter and summer ?

Why is the demand for strawberries more elastic than the demand for salt ?

Why is a monopoly in matches more profitable than a monopoly in kerosene oil ? (see also examples in text).

CH. IV. How would you explain the cost of a loaf of bread ?

If someone were to discover a means of making good quality clothes out of paper, what industries would you expect to find influenced, and how ?

CH. V. What is meant by optimum, diminishing returns, loan capital, enterprise ?

"Roundabout ways of production are shortest in the long run." Give examples, showing how this is so.

CH. VI. Why is it more economical to run a factory full time than part time ?

When may the growth of an industry be followed by higher prices ?

CH. VII. Explain why workshops in the tailoring trade are generally smaller than in the weaving trade.

What is meant by "limited liability" and what are its economic effects?

Explain on general economic grounds the growth of combines in either the iron or steel trades, railways, shipping or any others you may know of.

What are the advantages and disadvantages of rationalization?

CH. VIII. Explain the following terms: Cost of Living Index, Clearing House, Gresham's Law, legal tender, velocity of circulation.

What is a Bill of Exchange?

What happens when a Government suddenly prints a great many new banknotes?

CH. IX. Explain why firms engaged in the same trade are often concentrated in one town.

Where, on an important trade route, would you expect to find towns?

CH. X. "The amount of the National Income is an index, not a description, of wealth." Explain.

How would you account for differences in the national incomes of the United States and of China?

CH. XI. Why are wages unequal?

"Wages depend on productivity, and Trade Unions take no interest in increasing productivity. Therefore Trade Unions cannot raise wages." Is this true?

CH. XII. What is quasi rent?

"Rent is price-determined not price-determining." Explain.

CH. XIII. Why is interest paid on borrowed money?

Just after an important new invention has been first taken up commercially, the rate of interest is likely to rise. Why?

CH. XIV. For what service are profits received? What is goodwill and what are its economic effects?

CH. XV. Why does the State have to raise taxes?
What is meant by progressive taxation?

- CH. XVI. Enumerate the different causes of unemployment.
 "Unemployment is the price of economic freedom."
 Comment.
- CH. XVII. What is meant by the Trade Cycle ?
 Describe three possible contributory causes of the Trade Cycle.
- CH. XVIII. How is a decrease in population likely to affect the railways ? In what ways might a decrease in population increase income per head ?

SUGGESTIONS FOR FURTHER READING

[The following short bibliography makes no claim to be exhaustive, but merely shows some directions in which further reading can be usefully pursued. A general list is given first ; the remainder are classified according to subject matter, and as far as possible in order of difficulty.]

FOR GENERAL READING : Burns, *The Economic World* ; Clay, *Economics for the General Reader* ; Cannan, *Wealth* ; Henderson, *Supply and Demand*, are all meant for beginners. More advanced works are : H. V. Hodson, *Economics of a Changing World* ; Cassel, *Fundamental Thoughts in Economics* ; Wicksteed, *The A. B. C. of Political Economy* ; and *The Commonsense of Political Economy* ; Davenport, *The Economics of Enterprise* ; and Marshall, *Principles of Economics*. The last-named is the most authoritative single work on the subject.

1. MARKETS, MARKET PRICE, ETC. (besides the above) : Marshall, *Appendix F* in the *Principles* ; Knight, *Risk, Uncertainty and Profit, Part II* ; Schultz, *The Statistical Laws of Supply and Demand*, is advanced and requires mathematics.
2. THE ORGANISATION OF INDUSTRY : Robertson, *The Control of Industry* ; Meakin, *The New Industrial Revolution* ; and the Liberal "Yellow Book" of 1929.
3. MONEY AND CREDIT : Cannan, *Money* ; Robertson, *Money* ; J. M. Keynes, *A Treatise on Money* (advanced).

4. CAPITAL, RENT AND INTEREST : Fisher, *Elements of Economics* ; J. B. Clark, *The Distribution of Incomes* (ch. 9) ; Cassel, *The Nature and Necessity of Interest*. There is no easy work on Profits. Knight, *Risk, Uncertainty and Profit*, is good for advanced students.
 5. POPULATION AND WAGES : Wright, *Population* ; Robins, *Wages* ; Dobb, *Wages* ; Rowe, *Wages in Theory and Practice* ; McCleary, *Menace of British Depopulation* ; Reddaway, *Economics of a Declining Population* (rather advanced).
 6. LOCALISATION : Hawtrey, *The Economic Problem* ; C. E. Montague, "The Life of a City" (in collection of essays, *The Right Place*).
 7. TAXATION AND NATIONAL INCOME : Stamp, *Wealth and Taxable Capacity* ; Dalton, *The Inequality of Incomes and Public Finance* ; Pigou, *Public Finance*.
 8. UNEMPLOYMENT : Pigou, *Unemployment* ; Beveridge, *Unemployment* ; Robinson (Joan), *Introduction to the General Theory of Employment*.
 9. THE TRADE CYCLE : Macfie, *Theories of the Trade Cycle* ; Pigou, *Industrial Fluctuations* (advanced) ; Hayek, *Monetary Theory and the Trade Cycle* (advanced) ; Robinson, *Introduction to the General Theory of Employment*.
 10. PROTECTION AND FREE TRADE : Barrett Whale, *International Trade* ; R. A. Hodgson, *An Introduction to International Trade and Tariffs* ; *Tariffs: the Case Examined*, by Sir William Beveridge and others, is a thorough and balanced Free Trade statement. Tausig's *Foreign Trade* is authoritative but advanced.
- APPENDIX II : Erich Roll, *About Money* ; D. Penson, *The Economics of Business Life* ; G. D. H. Cole, *What Everyone Wants to Know About Money* ; Clare and Crump, *The A B C of the Foreign Exchanges* ; W. F. Spalding, *The London Money Market* ; O. Hobson, *How the City Works* ; W. King, *History of the London Discount Market* ; Truptil, *British Banks and the London Money Market*.

INDEX

- ACCELERATION PRINCIPLE, 181-183
 Acceptance Houses, 215
 Aftalion, 180
 Agriculture, 54-55, 66, 121, 125
- BANK OF ENGLAND, 94-95, 210-215
 — Notes, 93-96
 — Rate, 212
 Banks, 94-100, 213-215
 — and Trade Cycle, 187
 Bills of Exchange, 99-100, 215-219
 Bohm-Bawerk, 50
 Brokers, 222
- CAPITAL, 6-7, 44-45
 — and overhead charges, 72-73, 76, 121-122, 140, 142-150, 153, 155, 156
 — fixed, 46-51
 — loan, 51-53
 — marginal efficiency of, 188-193
 Cheques, 98-99
 Classical Theory of value, 35-37
 — of production, 44-45, 49
 — of profit, 151
 — of rent, 139-140
 — of wages, 124-125
 Clearing House, 98-177
 Coal, 74, 109, 113, 171
 Combines, 70-71, 77-81, 221
 Companies (see *Joint Stock Companies*)
 Competition, 26, 32, 76-78
 Costs, 35-43
 — increasing, 65-66
 — real, 39
- Cotton, 101, 103, 171
 Credit, 95, 98-100, 211-219
- DEFLATION, 90-91, 187-188
 Demand, 22-34, 36-42
 — elasticity of, 27-31
 — for fixed capital, 136-137, 140, 189-191
 — for labour, 126-127, 134
 — for loan capital, 143, 189-191
 — joint and composite, 41, 42
 Diminishing Returns, 54-55, 62
 Discount Houses, 216-217
- ECONOMICS, 1-9, 61
 Elasticity of Demand, 28-29
 — of demand for income, 164
 — of demand for labour, 134
 — of supply, 66
 Entrepôt Trade, 107-108
 Entrepreneur, 59-60, 69-71, 150-154, 164
 Equilibrium, 18
 Exports (see *International Trade, Tariffs, Localization*)
- FREE TRADE (see *Localization*)
 Freights, railway, 76
 — shipping, 77
- GOLD, 92-93, 96, 212
 — and the Trade Cycle, 183, 187-188
 — Standard, 96-97, 100, 217
 Goods and Services, 3, 10
 — and money, 85, 87-90
 — free goods, 48
 Goodwill, 154-155
 Gresham's Law, 92

HOBSON, J. A., 186

IMPORTS (see *International Trade*,
Localization)

Income, 5-7

— inequalities of, 116-117, 128-130, 186

— national, 115-123, 196, 198-199

Income Tax, 162-164

Index numbers, 85-87

Industrial Revolution, 67, 109

Industry, costs in, 64-68

— combinations, 70, 71, 73-81

— localization of, 101-114

— mobility in, 169, 196-197

— organization, 69-71

— State control of, 79-81

Inflation, 88-90, 187-188

Interest, 62, 142-149

— and rent, 148-149

— and the Trade Cycle, 189-190

— origin of, 144-145

— pure and commercial, 142-143

— variations in, 145-148

Insurance Companies, 222

International Trade, 97, 111-114

Inventions, 67-68, 183-184, 189

Investment Trusts, 222

Iron and Steel, 72-75, 171

JOINT STOCK COMPANIES, 70, 153-154, 219

KEYNES, J. M., 188-192

LABOUR, division of, 13-17, 53

— and wages, 124-135

— between areas, 113

— Theory of Value, 35, 37, 46

Land, 44-45, 66, 68, 136-140

Liquidity Preference, 189-190

Localization, 17, 65, 101-114

— and specialization, 108-110

— and tariffs, 113-114

MARGINS, 25-27, 126-127, 137

Marginal Productivity Theory of
Wages, 126-128, 131-134

Marginal Productivity Theory of
rent, 136-137

Markets, 18-34

— commodity, 155

Mass production, 61-64, 73

Money, 3, 82-100

— characteristics of, 91-92

— market, 216-217

— quantity of, 87-89, 189

Monopoly, 31-34, 78-81, 134

NATIONAL INCOME (see *Income*)
Nationalization, 80-81

OVERHEAD COSTS (see *Costs*)

POPULATION, 53-60, 193-201

— classical theory of, 55-56

— optimum, theory of, 57-59,
197-200

Ports, 105, 110-112

Price, 4, 18-43

— and costs, 35-37

— and mass production, 61-63

— and rent, 140

— competitive, 26

— monopoly, 31-34

— of fixed capital, 138

— of labour, 130

— reserve, 26-27

Price Level, 83-91

— and Trade Cycle, 184-186, 187

Production, 10-12

— factors of, 44-60

— mass, 61-64

— taxation and, 161-162, 163

— unit of, 71-73

Profits, 150-156

— and the Trade Cycle, 183

— classical theory of, 151

— inequality of, 153-156

— origin of, 152-156

Propensity to consume, 189

RAILWAYS, 75-77

Rationalization, 14, 73-75

Rent, 136-142, 148-149

— and interest, 142, 148-149

— and prices, 139-140

Rent and wages, 139
— of capital goods, 137-139
— of land, 136-137

SHARES, types of, 220

State, activities of, 157-160
— finance of (see *Taxation*)

Supply, 35-43
— elasticity of, 65-66
— joint and composite, 40, 41

TARIFFS, 113-114, 161, 165

Taxation, 162-164
— and distribution, 162-163
— and production, 161-164
— and saving, 165

Trade, international (see *International Trade*)

Trade Cycle, 173, 176-192

Trade Unions, 16, 130-134, 156

Treasury Bills, 214

UNEMPLOYMENT, 12, 127, 133-134,
166-175, 177, 178, 195-197
— and population, 195-197
— and Trade Cycle, 177-188

Utility, 23-25
— marginal, 25

VALUE, 3, 36-38, 116-117

WAGES, 53, 55-56, 124-135

— and rents, 139
— and Trade Unions, 130-134
— classical theory of, 124-125
— inequality of, 127-130
— marginal productivity theory
of, 126-127

War, 170-172

Wealth, national, 115-123

PRINTED AT
THE CHAPEL RIVER PRESS,
ANDOVER, HANTS

743